FINAL REPORT OF THE CHARLOTTE HARBOR ESTUARY INFORMATION CAMPAIGN, 1983 THROUGH 1984

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ject was funded by a grant from the Office of Coastal Management, epartment of Environmental Regulation as a component of the oastal Management Program, National Oceanographic and Atmospheric ration

Introduction

The purpose of the Charlotte Harbor estuarine information campaign was to communicate the findings of scientific research about Charlotte Harbor to Charlotte Harbor area residents and evaluate its impact on level of awareness. The Department of Environmental Regulation, Office of Coastal Management, through a federal grant, supported the Department of Natural Resources, Bureau of Marine Research, in this project to increase public awareness and knowledge about the Charlotte Harbor estuarine system through various communication media.

Charlotte Harbor represented a good test area because: 1) the campaign interpreted research findings of a scientific study of the estuary conducted by FDNR, 2) Charlotte Harbor is one of the largest and most natural estuaries in the State, 3) over 90 percent of the Harbor exists as five aquatic preserves, and 4) Charlotte and Lee counties have an unusually large number of environmental organizations.

The campaign design approached the project from a public relations perspective of Research, Action, Communication, and Evaluation. The research element consisted of determining the present knowledge level of residents of the Charlotte Harbor area regarding the characteristics of the estuary. A telephone survey conducted in December 1983 made this determination. The action component consisted of designing and producing informational materials targeted to reach audiences indicated by the survey. The communication element involved distributing informational materials and establishing contacts with local news media. A post-campaign survey conducted in December 1984 comprised the evaluation component.

This campaign marked the first time the state had launched a major natural resource information campaign of this scope. The pilot project conducted in Charlotte Harbor served as the basis for a statewide estuary information campaign conducted by the Department in 1985.

RESEARCH

The pre-campaign knowledge survey 1) furnished the Department with current, detailed information about Charlotte Harbor area residents' knowledge of the estuary and 2) provided baseline data for evaluating the effectiveness of the information campaign. A similar questionnaire implemented one year later enhanced the comparability of the surveys. See Appendix I and II for a copy of the questionnaires with summary results.

MGT/Market Research, Inc., contracted by the Department, conducted the surveys. Although Department staff helped design the questionnaire, MGT conducted the pilot test and telephone interviews and reported the survey results. Accuracy of the findings in the surveys fall within a range of $\pm$ 5 percent, at the 95% confidence level. This range indicates the extent to which findings may differ from results that would be obtained if all area adults were interviewed. MGT employed a random digit dialing procedure to obtain a representative sample of telephone households, irrespective of whether or not the telephone was listed (MGT, 1985).

The questionnaire design determined the representativeness of the sample by asking demographic questions, indicated how familiar the respondents were with the Charlotte Harbor area and revealed how much they knew about Florida estuarine components. The questions emphasized knowledge rather than attitudes.

The survey results described in the 1984 MGT report Executive Summary

reported that "Over one-third (36%) of the residents indicate that they are familiar with the Charlotte Harbor area and surrounding waters. Behavioral indicators of the survey reveal that: 8 to 10 area adult residents had eaten Florida seafood in the past 30 days, and 4 of 10 had gone fishing, clamming or crabbing in Charlotte Harbor in the past."

When asked what the word "seagrasses" meant to them, 36% of the respondents correctly identified seagrasses. When asked similar questions about mangroves, 35% answered correctly and 20% correctly identified estuaries.

"Of the rivers flowing into Charlotte Harbor, the Peace River is most wide known (70%). Residents tended to mention the river nearest their locale. Additionally, nearly half of the adult residents believe freshwater flow influences harbor marine life.

"Charlotte Harbor residents believe seagrasses: provide food for marine life (32%), and protection or habitat for marine animals (15%). They also see threats to harbor seagrasses from: pollutants and toxic wastes (54%), and boat traffic or boat props (26%).

"Mangroves are thought to: stabilize the shoreline (39%), and serve as marine life habitat (26%). Fully 30% of area residents acknowledge the presence of more than one type of mangrove tree in the harbor area. Eight of ten adults believe bays and lagoons are marine nursery areas for young fish. Three quarters of the local adults feel the Harbor and surrounding waters are a major fish harvest area. A majority (54%) believe Charlotte Harbor is one of Florida's heathiest natural bay systems.

"Variations of responses were found among demographic subgroups for a number of questions. Several of the subgroups frequently revealed differences or trends in answers. These subgroups were: number of times

eaten Florida seafood, gone fishing, clamming or crabbing, and county residence. The above items seem to serve as relatively good predictors of natural resource information held by area adult residents."

ACTION

Information about the Charlotte Harbor estuary was distributed from August 1984 through December 1984, using the communication vehicles discussed in this section. The materials described the Charlotte Harbor estuary, seagrasses, and mangroves. The content covered information specifically contained in the knowledge survey questionnaire.

Public Service Announcements

The communication vehicles included six radio and television public service announcements (PSAs): three 30-seconds long and three 10-seconds long. Charlotte Harbor area broadcast media indicated a preference for 30-, 20-, and 10-second PSAs and a hesitance to use 60-second spots. Some area radio stations preferred to read PSAs "live" rather than use pre-recorded messages.

The 30- and 10-second television PSAs afforded the messages more broadcast time. The 10-second spots (shorter versions of the 30-second PSAs) augmented the longer PSAs. All of the spots used the same concept and design. They consisted of live shots of the subject with a voice-over audio track. A banner containing the words "Charlotte Harbor" was superimposed over the final images of the 30-second spots; the scripts localized the spots by mentioning the Charlotte Harbor estuary, seagrasses, or mangroves. Broadcast of PSAs relies heavily on production quality. The better the quality, the more likelihood of it being aired. For this

reason, a professional production house conducted the final production and editing work.

Each PSA dealt with only one subject: mangroves, seagrasses, or the Charlotte Harbor estuary. The recorded radio PSAs generally used the voice-overs from the television productions. The correlation between the radio and television spots reinforced the message. Those stations that preferred written PSAs received a variety of 30-, 20-, and 10-second scripts along with an information package. Because the message was about the area, it attracted more attention, including that of the news media.

Outdoor Advertisements

Outdoor advertising included 28 billboards approximately 10' by 22', referred to as 30-sheet posters. The artwork, produced in-house, contained all of the major elements of the campaign: seagrasses, mangroves and the Charlotte Harbor estuary. A banner similar to that used in the PSAs localized the billboards.

The location of the billboards varied with the availability of unpurchased billboard space. Pre-campaign survey results indicated that residents in Charlotte County were more knowledgeable about the Charlotte Harbor system than residents in Lee County. For this reason, the ratio of billboards posted in Lee County to Charlotte County was approximately 3.5 to 1.

Brochures

The three brochures (copies attached) produced for this campaign covered the same subjects addressed in the PSAs; mangroves, seagrasses, and the Charlotte Harbor estuary. Although the adage says, "You can't judge a

book by its cover," that is how these researchers perceive the general public's response to brochures. To combat this prejudice, the brochure covers were designed with attractive, full color scenes of the subjects, i.e., the seagrasses brochures had an underwater scene of seagrasses on the cover.

The brochures also displayed a localizing banner across the upper left corner of the cover. The text contained information about Charlotte Harbor. For example, the seagrasses brochure contained information on the acreage of seagrass cover lost over the last 40 years. This localizing proved to be an important "selling" feature of the brochures. Several schools requested bulk supplies to be used in their environmental education classes.

Poster

A poster advertising the campaign included an address for information about Charlotte Harbor. Pre-paid mail reply cards attached to the posters provided an opportunity to request information about seagrasses, mangroves and estuaries. Response to this material was good. A letter and the appropriate brochures served as the reply to the inquiries.

Bumper Stickers

Bumper stickers bore the slogan of the campaign, "estuaries are special," the slogan of the campaign. They served as reinforcing tools and helped with name recognition. A concern of the campaign dealt with recognition of the word, "estuary"; the bumper stickers helped address this problem. The design, based on the billboard, also enhanced the visual continuity of the campaign.

News Releases

News releases mailed out intermittently throughout the information campaign covered five areas: the overall campaign, the posting of billboards, public service announcements, the pre-campaign telephone survey results, and scientific information about the Charlotte Harbor estuary.

The decision of whether or not to publish a news release, or use it in broadcast news, rests solely with the news editor. However, news releases often alert media representatives of current issues, prompting inquiries that can develop into in-depth news stories.

COMMUNICATION

Product distribution occurs at the communication stage. At this point media contacts are reestablished, volunteers coordinated, and local contacts informed of the start of the campaign.

The television and radio public service announcements were hand-delivered along with background information about the natural resources of Charlotte Harbor. Personal contact with media representatives opened discussion about their participation with the campaign. Although common practice, the Federal Communications Commission no longer requires broadcast stations to air PSAs. The personal contact and the fact that the materials focused on the media's broadcast area, improved the chances of getting these spots aired.

Because of delays with printing, the brochures were not available during the campaign. Distribution of the brochures occurred after the post-campaign survey was conducted.

The pre-campaign survey indicated that the target audiences included

single women, people under the age of 30, and people who lived in the area less than two years. The posters, distributed wherever large volumes of the targeted audiences were likely to be were displayed primarily in marinas, near beaches, and at seafood dealers and restaurants.

The survey indicated a high correlation between people who eat seafood and engage in marine activities and their knowledge of the Charlotte Harbor estuary. Although intuitively it seemed that seafood restaurants or marinas should not be targeted with informational materials, they were popular meeting places for many segments of the targeted audiences.

The communication process emphasized interaction with the media. Contact with local broadcast stations increased their interest in conducting interviews and, in some cases, they contacted Department personnel for information about the Harbor. The Department made videotape of underwater scenes of seagrasses and aerial views of the Harbor available to television stations. As a result, some stations produced a series of weekly news stories rather than just one interview.

The local stations generated a total of two hour-long radio shows, three television interviews, two television series (four or five segments each), and one half-hour long live television talk show. The broadcast media proved to be a very important communication vehicle for the campaign.

During the campaign, many newspapers published the Department news releases verbatim. Several other papers and broadcast stations requested supplemental information which resulted in additional media coverage. All news releases were distributed by mail. Although photographs accompanied several news releases, there was no indication they were used.

EVALUATION

Evaluation of the campaign relied on the post-campaign survey results. Judging with this criteria shows some success.

The campaign design provided for a period of time to elapse during which area residents would be exposed to all of the communication materials. However, distribution of the brochures occurred after the survey was conducted. Any observed changes resulting from Department materials were based solely on the public service annnouncements and news stories. The billboards and bumper stickers helped with reinforcement.

Information from sources other than the Department addressed some of the issues mentioned in the campaign. At the time of the campaign, source distributed information about marine resources as a general practice. The media covered issues such as management of the aquatic preserves and protection of mangroves.

Results

According to the 1985 MGT survey report, "Comparisons of the results of the two surveys reflect short-term, immediate impact on the general public." Questions asking respondents to describe the meaning of "mangroves" or "estuaries" reflected a slight increase in the correct description of estuaries and a similar percentage of correct responses about mangroves and seagrasses.

When asked how seagrasses contribute to the Charlotte Harbor estuary, "The categories 'habitat for marine life' and 'stabilize the bottom' show approximate 10% increases. 'Water clarity' replaced 'oxygen production' as the fifth most often mentioned contribution." In addition, "Residents

appear to feel more concern over housing and development and their damaging effects on natural resources now than at the time of the first survey."

"Residents' perceptions of the value and contribution of mangroves have remained consistent. 'Stabilizing shorelines' was mentioned by about 10% more respondents in 1984 than in the 1983 baseline survey."

"Over 4 of 10 respondents (42%) disagree with the statement that only one type of mangrove grows along the Charlotte Harbor coast. Just 14% agree with this statement, while 44% say they don't know. Compared to 1983 figures, these response percentages illustrate some increase in respondents who 'disagree' (30% - 42%) and a reduction in those who say they don't know (54% - 44%)."

"The 1983 baseline revealed variations of responses among demographic subgroups. Targeting of the information campaign was based on these trends. Subgroup response differences do not appear in the 1984 follow-up survey data. This suggests that informational discrepancies across segments of the general population have been reduced." The results also indicated that the information flow was maintained from one year to the next.

DISCUSSION

The following discussion uses the same outline as the report to clarify how the comments fit into the overall design. Much of the decision making occurred, however, before the actual campaign stage in which it is discussed.

Research

The bulk of the questions used in the survey related to knowledge rather than opinion or attitude, although some questions touched on these areas. The rationale for this lay in what the Department could achieve with the campaign. Mass communication techniques reach the largest number of people for the fewest dollars. Because these would be the techniques used for the campaign, the research and evaluation elements needed to focus on measuring the effects of these techniques. "Research evidence indicates that changes in knowledge or level of information are much more likely to be produced via mass communication than, say, changes in attitudes." (Stamm, 1972).

Stamm clarifies the differences between knowledge, opinion, and attitude. He defines each term and makes some observations about information campaigns. "The knowledge concept, as used in mass communication literature, refers to the individual's recall of facts about particular events.

"Opinion, defined as an intellectual (rather than emotional) belief one holds about an issue, could potentially encompass an ecological perspective.

"The upshot is that current usage of 'opinion' tells us whether people are for or against doing certain things to the environment and whether they favor certain remedial policies."

He describes attitude as "a stable response to a single object."

"We often say that we are utilizing communication strategies to obtain attitude change - i.e., we want the individual to shift his position in the picture. But we can hardly change an attitude unless one already exists, and a necessary condition to having an attitude is that the individual have

a cognition about the (observer's) object that includes himself."

Action

The project designers considered some basic points of public relations when drafting the communications materials. Cutlip and Center (1978) in their text, Effective Public Relations, list these points as: credibility, context, content, clarity, continuity and consistency, channels, and capability of audience.

Background research of public service announcements revealed that PSAs with the most believability included live-action shots, those with highest message attention had straightforward presentation of facts and implied social benefits, and that the recommended length is 30-seconds. Each of these factors influenced the content and design of the final products.

Making the content of the PSAs and brochures relevant to the viewers and readers included discussing the area in which they lived, giving examples of actions they could take to help address some of the problems mentioned, and showing scenes from their area.

Clarity refers to compressing complex issues into short phrases and slogans. The slogan, "estuaries are special," served this purpose. Another aspect of clarity lies in artwork. The billboard artwork contained more than seven colors and a detailed and complex scene. Some of the effectiveness of this medium was possibly reduced because of this.

Consideration of the capability of the audience most critically affects written material. The content of the brochures explained what mangroves, seagrasses and estuaries are, what they do, and the results of Department research into how they have changed in the Charlotte Harbor area over the last forty years. The text of the brochures did not meet the

fourth grade reading level, the level generally used as a guide for newspapers; they aimed higher.

Communication

Cutlip and Center (1978) recommend using existing communication channels when introducing an information campaign into a region. The channels used in this campaign included television, radio, billboards, and local organizations; all existing channels.

There was some concern about using billboards because of past controversy over their aesthetics. The project designers contacted local environmental groups to ascertain their perceptions of using billboards for environmental messages. They overwhelmingly supported the idea of the campaign and the use of existing billboard space. One letter from a private citizen registered an objection to their use after the campaign was underway. Fortunately the prior consultation provided the basis for responding to this complaint.

Continuity and consistency refer to repetition. "Repetition - with variation - contributes to both factual and attitude learning." (Cutlip and Center, 1978) The campaign met this criteria through the repeated use of the localizing flag and a mangrove symbol on all written materials, through using the same phrases in different materials, and through communicating a consistent message through several different media.

Evaluation

"Knowledge" questions about Charlotte Harbor did not differ between surveys and the findings can be compared. The only area that differed related to the information sources used by the respondents. "The 1984

question asks for specific information regarding mangroves, seagrasses, and estuaries, while the 1983 question requests general information about Florida marine and natural resources. Though the response percentages are similar, the scope of the information reception measured has been narrowed by the question itself." The final survey question asked, "During the last 3 months, have you received any information about Florida's mangroves, seagrasses or estuaries from: TV, radio, newspapers, billboards, bumper stickers, relatives and friends." (MGT, 1985) See the appendix for a copy of the pre- and post-campaign questionnaires with summary results.

The question of whether or not the results would have been different had the brochures been distributed during the campaign will always remain. The results did show positive change. How much greater this change would have been is open to question.

As the final survey report concludes, "Advertising and persuasive message research suggests that effects of such campaigns are often slow to take hold and the public's attitudes and opinions are equally slow to reflect this change."

Education

The project design included an education component. Preliminary research was conducted in this area. Slides covering each of the topics; seagrasses, mangroves, and estuaries, were obtained from educators and the Lee County Nature Conservancy. As the other aspects of the campaign grew in scope and time commitment, this aspect was set aside. Slides and sample scripts remain on file; they were never put into the final form of a self-contained slide/tape presentation.

RECOMMENDATIONS

Florida faces ever increasing demands on its coastal zone. Coastal barrier island development continues at an alarming rate. Problems of salt water intrusion into drinking water concerns residents in some coastal towns. The spectre of a coastal natural disaster in the form or hurricanes, or even severe rain storms, grows ever darker on the horizon. As problems escalate, the need for ready information to manage these problems increases too. The state must launch a concerted, state-of-the-art program to meet these demands.

Such a program would require three levels of information management: a coastal information clearinghouse, a statewide coastal information campaign and an education program for schools.

Clearinghouses act as a central source where information on a specialized topic is gathered, stored and shared upon request. They have taken many forms across the U.S., some more aggressively advertising their services than others. The audience differs for each clearinghouse.

In the case of a coastal information clearinghouse for Florida, the audience should include citizens, elected officials (local and state), governmental agency personnel, scientists, and educators. The information gathered should range from current scientific research findings to state regulations affecting coastal areas to marine education programs. Through this facility, individuals could learn of strategies used by states and counties to cope with coastal development pressures, among many other topics.

Although clearinghouses maintain collections of materials on their subject area, not all are in the business of printing and mailing out

materials. Many respond to inquiries with a listing of existing information sources and how to locate them.

Clearinghouses prove especially helpful with a subject area as diverse as coastal information. If promoted properly, this facility could effectively reduce the amount of time citizens and legislative aides, etc. spend searching for the correct information sources or materials to address their specific needs. The clearinghouse would be the first stop and perhaps the last if it disseminated materials, as well as indexes and abstracts.

The MGT surveys discussed earlier in this report illustrate the lack of knowledge about Florida's coastal zone by the people who live there. This lack of awareness creates many difficulties in the management of these areas. Related to the same audience, is the question of their preparedness in the face of major storms. These information gaps must be filled. An intensive, continuing, statewide information campaign that reaches each coastal county can far increase awareness.

An information campaign, by definition, would utilize mass communication tools such as those described earlier and affect knowledge. It will not necessarily change behavior or attitudes. Government's role in information dissemination comes into question when considering the latter objectives.

The objectives of a coastal information campaign would include creating awareness of the character of coastal areas, relaying information about laws and regulations governing coastal land use, and publishing coastal information materials for the lay public.

Bringing coastal issues into the classroom directly complements these other efforts. The design of this program encompasses each aspect of

decision-making to creating an awareness of coastal issues in the voting public and also to educating future voters.

Several models of marine education programs exist in other coastal states. Texas designed a program to "marinate" their teachers' curriculum. North Carolina and California Sea Grants also support major marine education efforts.

Many marine education materials exist; they should be adapted for use in Florida. Materials have been designed for various Florida counties; they should be more widely available. Making coastal education a priority in Florida schools involves coordination with the state Department of Education, county science supervisors, and teachers.

Combined, these three levels of information management will help create a coastally aware public.

ACKNOWLEDGEMENTS

Without the assistance of many individuals, companies and organizations, this project would not have been possible. Florida Power and Light Corporation provided professional audio studios, videotape for public service announcements, and professional personnel who assisted with their production. Florida Power Corporation provided advice and artwork. The Lamar Corporation of Ft. Myers donated billboard space and posted the Department's public service billboards. We also appreciate the sincere interest and follow-through of local media representatives. We thank the many people who offered valuable advice, services and assistance. Thanks to Commercial Plastics and Supply, Inc. and Graffique Design for donating material and for producing brochure racks, and the U.S. Fish and Wildlife Service for the use of their artwork. We also thank the Gasparilla Island Conservation & Improvement Association, Inc., J.N. "Ding" Darling Refuge, Sanibel-Captiva Conservation, Marine Extension Service of Charlotte and Lee Counties, The Conservancy, Friends of Wildlife, The Natural Resource Foundation, Lee County Nature Center, William Sheftall and Roger Clark of the Department of Natural Resources Bureau of Land Management, Lee County Electric Cooperative, and countless other individuals and organizations for their assistance with the almost overwhelming task of literature distribution in Charlotte and Lee counties. Finally, a very special thanks to Bureau of Marine Research staff for their support and advice during this project.

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A FOLLOWUP SURVEY OF GENERAL PUBLIC ESTUARINE KNOWLEDGE IN CHARLOTTE AND LEE COUNTIES

FINAL REPORT

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1.0 INTRODUCTION

This report details results of a survey conducted in Charlotte and Lee Counties, Florida, as a follow-up to a similar baseline survey conducted one year earlier in the same area. Both random sample surveys concerned adult residents' knowledge about and attitudes toward the Charlotte Harbor estuary. The follow-up survey also examined resident's exposure to informational materials regarding natural resources and Charlotte Harbor.

The Florida Department of Natural Resources (DNR) sponsored the project. DNR Public Information staff, J.M. Smith and D. Wilson assisted MGT/Market Research, Inc., in designing the baseline and follow-up questionnaires. MGT conducted all telephone interviewing.

This report is divided into four sections. Sections 1.0 and 2.0, respectively, introduce the survey project and provide an executive summary of the results. Section 3.0 describes, in detail, the follow-up survey results and also contains comparisons of baseline and follow-up survey results. Section 4.0 is an appendix containing:

- a technical summary of the telephone sample survey methods
- copies of the baseline and follow-up questionnaires with summary results
- a legend describing the categories summarized in each report table.

2.0 EXECUTIVE SUMMARY

MGT/Market Research, Inc., completed 380 telephone interviews with Charlotte Harbor area adult residents. All interviews were conducted between December 8 and December 13, 1984. The random sample survey focused on residents' knowledge and opinions of natural resource issues concerning the Charlotte Harbor estuary and on residents' sources of information regarding these issues.

A similar baseline survey was conducted by MGT/Market Research, Inc., in December, 1983. The results of that telephone survey established measures of knowledge and awareness used for comparative purposes after completion of the 1984 survey.

The Department of Natural Resources based a new informational campaign on the results of the 1983 survey. The campaign was initiated four months prior to the December 1984 follow-up survey. Comparisons of the results of the two surveys reflect short-term, immediate impact on the general public.

The 1984 follow-up survey reveals that:

- 34% of the respondents had participated in area fishing, clamming or crabbing, and
- 77% had eaten Florida seafood during the previous month.

Asked to describe three terms important to the Charlotte Harbor Estuary, area residents correctly identified:

- Mangroves (30%),
- Seagrasses (37%), and
- Estuaries (28%).

The percent of "correct" responses regarding "mangroves" and "seagrasses" was similar in 1983 and 1984. The percent of correct descriptions of the term "estuary" increased slightly.

As in the baseline survey, over half of the respondents feel freshwater flow into Charlotte Harbor affects marine life. Follow-up respondents feel seagrasses contribute to the Charlotte Harbor Estuary by:

- providing food for marine life (36%),
- providing a habitat for marine animals to live (25%), and
- stabilizing the bottom (19%).

The first contribution was mentioned by an equivalent percentage of baseline respondents, while the latter two contributions gained responses during the follow-up survey.. Things that cause the greatest damage to seagrasses were:

- pollution and toxic waste (60%),
- boat traffic, boat props (27%), and
- housing, seawalls and development (24%).

Concern about the damaging effects of development on the environment of Charlotte Harbor seems to be increasing.

Respondents suggest that mangroves contribute to the Charlotte Harbor Estuary by:

- stabilizing the shoreline (49%),
- providing a habitat for marine life (30%),
- serving as breeding areas for birds (18%), and
- supplying food for marine life in the harbor (16%).

There was a significant increase in the number of respondents who mentioned the first contribution.

Most respondents (61%) expressed strong feelings that conservation programs are not hindering the economic growth of the area. There is an increase in this feeling since the baseline survey of 1983.

Follow-up survey data indicate that area residents received messages regarding Florida's mangroves, seagrasses and estuaries from:

- newspapers (45%),
- television (34%),
- bumperstickers (17%),
- relatives and friends (14%),
- radio (11%), and
- billboards (7%).

Questions regarding informational sources reveal that similar percentages of respondents receive marine and natural resource messages from each of the media available. The follow-up survey indicates that this information concerns the three key topics of the DNR informational campaign, i.e., mangroves, seagrasses, and estuaries.

The number of respondents who could not or would not answer a question concerning effects of fresh water flow increased markedly. Respondent's awareness of the contributions of seagrasses and mangroves increased, but data indicate that residents are still confused regarding a description of the term "mangroves."

The 1983 baseline survey revealed variations of responses among demographic subgroups. Targeting of the informational campaign was based on these trends. Subgroup response differences do not appear in the 1984 follow-up survey data. This suggests that informational discrepancies across segments of the general population have been reduced.

3.0 ADULT RESIDENT'S KNOWLEDGE AND OPINIONS OF THE CHARLOTTE HARBOR ESTUARY

This section is based on 380 interviews with adult residents of Charlotte and Lee Counties. These follow-up survey telephone interviews were conducted from December 8 to December 13, 1984, by MGT/Market Research, Inc. One year prior, a baseline survey of residents in the two county area was also conducted by MGT/Market Research. A description of the sample survey methods can be found in Appendix I. Summary results and the baseline and follow-up questionnaires can be found in Appendices II and III, respectively.

The follow-up telephone survey was designed to document residents':

- attitudes toward natural resource issues in Charlotte and Lee Counties
- knowledge of seagrasses, mangroves, estuaries and related natural resource issues, and
- exposure to informational messages concerning natural resources and Charlotte Harbor.

Each subsection of this report summarizes the relevant follow-up survey results and provides detailed frequency and cross-classification tables. In addition, overall results of the baseline and follow-up surveys are compared.

Survey Respondent Characteristics

The Charlotte Harbor area, specifically Charlotte and Lee Counties, has experienced tremendous growth during the past 15 years. This area also has traditionally had a large proportion of temporary residents during the winter months. These factors

make comparisons of sample survey demographics and population characteristics difficult. Survey results indicate that 14% and 13% of the baseline and follow-up samples, respectively, were temporary area residents.

The demographic information provided in Table 1 describes the representativeness of the telephone survey samples as well as their consistency over time.

Respondents in the 1984 follow-up survey again represent a broad cross section of the area's adult population (Table 1). One of every four respondents is from Charlotte County while the remainder reside in Lee County. Approximately 24% are 18-34 years of age, 25% are 35-54 years old and 51% are 55 or older. Non-whites and Hispanics make up only 4% of the sampled residents while 96% are white. Slightly over half (52%) of the 1984 respondents were female. These follow-up survey demographic results are consistent with baseline findings and highly representative of the 1980 Census figures for the two county area.

Comparison of five additional demographic characteristics among the 1984 follow-up survey respondents and 1983 baseline survey respondents is presented in Table 2. Slightly less than half (48%) of the follow-up survey respondents report finishing only grade school or high school. Three of ten (29%) attended a post-secondary institution, while 23% completed a college education. Many respondents live in households where the main wage earner is retired (46%) or has a white collar job (31%). Less than one quarter (23%) of those sampled live in blue collar households.

TABLE 1

PRIMARY DEMOGRAPHIC CHARACTERISTICS
OF THE CHARLOTTE HARBOR AREA TELEPHONE SAMPLES
AND CHARLOTTE HARBOR AREA ADULT POPULATION

	1983 Charlotte Harbor Area Sample	1984 Charlotte Harbor Area Sample	Charlotte Harbor Area Adult Population*
	(n=392)	(n=380)	(n=263,726)
County			
Charlotte	28%	25%	22%
Lee	72	75	78
	100%	100%	100%
Age			
18-34 Years	25%	24%	26%
35-54	23	25	23
55+	52	51	51
	100%	100%	100%
Race			
White	96%	96%	92%
Non-White Hispanic	4	4	8
	100%	100%	100%
Sex			
Female	53%	52%	53%
Male	47	48	47
	100%	100%	100%

*1980 U.S. Census of Population. General Population Characteristics, Part II, Florida (Charlotte and Lee Counties).

Nearly four of ten residents (37%) who reported income, have household incomes of less than $15,000. Approximately, 28% report incomes of $15,000 - $24,999, 15% report incomes of $25,000 - $34,999, and 20% indicate incomes of $35,000 or more.

TABLE 2

SECONDARY DEMOGRAPHIC CHARACTERISTICS
OF THE CHARLOTTE HARBOR AREA SAMPLES

	1983 Charlotte Harbor Area Sample (n=392)	1984 Charlotte Harbor Area Sample (n=380)
Education		
Grade-High School	58%	48%
Post-Secondary	21	29
College Graduate	21	23
	100%	100%
Main Wage Earner Occupation		
White Collar	32%	31%
Blue Collar	23	23
Retired	45%	46
	100%	100%
Income		
Under $15,000	41%	37%
$15,000 - $24,999	28	28
$25,000 - $34,999	14	15
$35.000 +	17	20
	100%	100%
Length Of Area Residence		
1 Year or Less	13%	19%
2-5 Years	32	26
6 or More Years	55	55
	100%	100%
Residence		
On The Water	26%	28%
Inland	74	72
	100%	100%

Fifty-five percent of the follow-up survey respondents have been Charlotte Harbor residents for 6 or more years. Twenty-six percent have lived in the area for 2-5 years, and 19% are new residents (1 year or less).

Seventy-two percent of the respondents who live inland with no direct access to Charlotte Harbor while 28% live on the water.

The secondary demographic characteristics of respondents in both surveys are very similar. However, the 1984 sample included slightly more new area residents and respondents with post-secondary educations than did the 1983 sample.

Follow-up survey results show that 30% of the residents interviewed can correctly define the word "mangroves", while nearly twice as many (59%) give an incorrect definition (Table 3). Only 2% give an indefinite answer and 9% don't know.

Slightly more than one-third of the respondents have ever been fishing, clamming, or crabbing in Charlotte Harbor waters. Approximately 29% had eaten Florida seafood 1-3 times during the month prior to the follow-up survey while nearly half (48%) had consumed Florida seafood 4 or more times in the same time period. Twenty-three percent had not eaten Florida seafood in the previous month.

A substantially larger percentage of follow-up respondents than baseline respondents gave incorrect definitions of the word "mangrove."

Response percentages for the two behavioral indicators were similar.

TABLE 3

KNOWLEDGE AND BEHAVIORAL CHARACTERISTICS
OF THE CHARLOTTE HARBOR AREA SAMPLES

	1983 Charlotte Harbor Area Sample (n=392)	1984 Charlotte Harbor Area Sample (n=380)
Meaning of the Word "Mangroves"		
Correct Definition	35%	30%
Incorrect Definition	44	59
Other	7	2
Don't Know	14	9
	100%	100%
Ever Been Fishing, Clamming, or Crabbing in Charlotte Harbor		
Yes	40%	34%
No	60	66
	100%	100%
Eaten Florida Seafood in Past Month		
No	21%	23%
1-3 Times	32	29
4 or More Times	47	48
	100%	100%

Use of Charlotte Harbor Area and Its Natural Resources

Two indicators of patterns of resident usage of the Charlotte Harbor area and its natural resources were included in the demographic information collected. Participation in Charlotte Harbor fishing, clamming, and crabbing by various respondent sub-categories is displayed in Table 4. Over one-third (34%) of follow-up respondents have participated in one or

more of these activities in Charlotte Harbor. This is similar to the 40% participation rate among baseline respondents. Residents of Charlotte County and area males are more likely to have engaged in one or more of these activities.

As stated earlier, 48% of follow-up respondents had consumed Florida seafood four or more times in the month prior to the survey (Table 5). Nearly 29% had eaten seafood 1-3 times in that time period, while 23% had not eaten any seafood. These figures are very similar to baseline survey findings. In general, older area residents, and those retired are more likely to be frequent consumers of Florida seafood.

TABLE 4

FISHING, CLAMMING, OR CRABBING IN CHARLOTTE HARBOR - December 84

QUESTION: Have you ever gone fishing, clamming or crabbing in Charlotte Harbor?

	Yes	No	(n)*
TOTAL	34.3%	65.7	370
COUNTY			
Charlotte	59.0%	41.0	96
Lee	25.7%	74.3	274
AGE			
18-34	35.4%	64.6	87
35-54	41.3%	58.7	90
55+	31.6%	68.4	185
SEX			
Female	24.5%	75.5	192
Male	45.2%	54.8	176
EDUCATION			
Grade-High School	33.1%	66.9	173
Post-Secondary	34.1%	65.9	109
College Graduate	37.4%	62.6	85
MAIN WAGE EARNER OCCUPATION			
White Collar	37.8%	62.2	110
Blue Collar	39.4%	60.6	82
Retired	29.1%	70.9	160
INCOME			
Under $15,000	27.9%	72.1	104
$15,000-$24,999	35.7%	64.3	79
$25,000+	39.2%	60.8	102
LENGTH AREA RESIDENCE			
1 Year or Less	24.1%	75.9	68
2-5 Years	32.6%	67.4	96
6 or More Years	39.4%	60.6	201
RESIDENCE			
On the Water	43.1%	56.9	106
Inland	30.1%	69.9	261
MANGROVE DEFINITION			
Correct	38.4%	61.6	112
Incorrect	33.4%	66.6	220
Other	30.8%	69.2	7
Don't Know	27.1%	72.9	31
EATEN SEAFOOD PAST MONTH			
No	16.9%	83.1	81
1-3 Times	40.4%	59.6	106
4 or More Times	38.4%	61.6	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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TABLE 5

MONTHLY CONSUMPTION OF FLORIDA SEAFOOD - December 84

QUESTION: During the last 30 days, about how many times have you eaten Florida seafood?

	No	1-3 Times	4 or More Times	(n)*
TOTAL	23.3%	28.6	48.1	377
COUNTY				
Charlotte	15.8%	32.1	52.1	96
Lee	25.8%	27.4	46.7	281
AGE				
18-34	28.0%	32.9	39.0	87
35-54	29.3%	31.8	38.9	94
55+	18.5%	25.4	56.1	188
SEX				
Female	26.9%	28.8	44.4	197
Male	19.4%	28.6	51.9	179
EDUCATION				
Grade-High School	28.3%	26.8	44.9	182
Post-Secondary	20.0%	28.0	52.1	109
College Graduate	14.9%	34.3	50.8	83
MAIN WAGE EARNER OCCUPATION				
White Collar	23.6%	31.4	44.9	112
Blue Collar	28.7%	36.9	34.4	83
Retired	20.2%	20.0	59.8	164
INCOME				
Under $15,000	26.2%	29.7	44.1	107
$15,000-$24,999	18.2%	34.3	47.5	80
$25,000+	23.1%	32.1	44.7	103
LENGTH AREA RESIDENCE				
1 Year or Less	20.6%	28.5	50.9	71
2-5 Years	27.8%	23.0	49.2	99
6 or More Years	21.5%	32.1	46.4	202
RESIDENCE				
On the Water	20.7%	25.4	53.8	107
Inland	24.1%	30.0	45.9	267
MANGROVE DEFINITION				
Correct	19.5%	32.4	48.1	111
Incorrect	24.1%	25.8	50.1	223
Other	23.1%	30.8	46.2	7
Don't Know	29.9%	34.3	35.8	36
FISHING, CLAMMING, CRABBING				
Yes	10.9%	33.9	55.2	126
No	27.9%	26.1	46.0	242

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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Charlotte Harbor Area Fresh Water Flow

The flow of fresh water is a fundmental part of the Charlotte Harbor Area's natural resources. Two questionnaire items were used in the follow-up survey to assess area residents' understanding of the effects of fresh water on marine life in the Harbor.

Table 6 presents results obtained when follow-up survey respondents were asked if they thought fresh water flow into Charlotte Harbor affects marine life. Slightly more than 4 of 10 respondents (42%) feel fresh water flow does affect the marine life. An equal number of respondents could not or would not answer the question. Only 14% say fresh water has no effect on harbor marine life and 3% say maybe. A similar percentage of baseline respondents feel fresh water affects marine life in the Harbor. However, follow-up survey figures show there was a 10% increase in the number of respondents who were unable to answer this question.

Charlotte County respondents are more likely to feel fresh water affects marine life in the Harbor, while Lee County respondents are more likely not to answer the question.

Younger, white collar and higher income residents are more likely to feel that fresh water flow affects marine life. This also holds true for persons who had engaged in area fishing, clamming or crabbing or had recently eaten Florida seafood.

TABLE 6

EFFECTS OF FRESH WATER ON MARINE LIFE - December 84

QUESTION: Based on what you know or have heard, do you think that the amount of fresh-water flowing into Charlotte Harbor affects the marine plants and animals living in the Harbor?

	Yes	Maybe, Not Sure	No	DK/ Refused	(n)*
TOTAL	41.6%	2.6	13.9	41.9	380
COUNTY					
Charlotte	54.5%	3.3	18.2	24.0	96
Lee	37.2%	2.4	12.4	48.0	284
AGE					
18-34	50.0%	2.4	14.5	33.1	88
35-54	49.6%	1.1	11.5	37.7	94
55+	34.6%	3.1	15.3	47.0	190
SEX					
Female	36.5%	3.5	10.5	49.6	198
Male	47.4%	1.8	17.7	33.2	181
EDUCATION					
Grade-High School	35.1%	1.7	13.0	50.1	183
Post-Secondary	49.4%	1.9	17.7	31.0	109
College Graduate	46.7%	5.6	11.2	36.4	85
MAIN WAGE EARNER OCCUPATION					
White Collar	57.3%	0.0	10.5	32.2	114
Blue Collar	37.7%	3.8	15.7	42.8	84
Retired	34.1%	3.2	14.2	48.5	165
INCOME					
Under $15,000	40.2%	4.4	17.2	38.2	108
$15,000-$24,999	43.9%	3.9	8.5	43.6	81
$25,000+	52.7%	0.0	13.0	34.3	104
LENGTH AREA RESIDENCE					
1 Year or Less	39.1%	4.4	12.5	43.9	72
2-5 Years	41.0%	3.2	10.1	45.7	100
6 or More Years	43.2%	1.8	16.0	39.0	204
RESIDENCE					
On the Water	47.4%	2.0	13.6	37.0	107
Inland	39.6%	2.9	13.7	43.7	270
MANGROVE DEFINITION					
Correct	45.1%	2.3	13.6	39.0	113
Incorrect	40.8%	2.4	13.8	43.0	225
Other	46.2%	0.0	15.4	38.5	7
Don't Know	34.3%	6.0	14.9	44.8	36
FISHING, CLAMMING, CRABBING					
Yes	58.5%	1.7	17.7	22.1	127
No	34.5%	3.3	10.5	51.8	243
EATEN SEAFOOD PAST MONTH					
No	27.8%	1.2	16.3	54.7	88
1-3 Times	50.1%	3.9	9.6	36.4	108
4 or More Times	42.7%	2.6	15.5	39.2	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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Respondents were asked if they would agree or disagree with the statement that fresh water entering Charlotte Harbor does not greatly influence the healthy development of marine life. Over half (52%) disagree with this statement and only 27% agree (Table 7). Additionally, 21% of the respondents in the follow-up survey could not answer the question. Similar response patterns were found in the baseline survey, but the number of persons who could not answer this question decreased. Follow-up respondents who are more likely to disagree with the statement are:

- younger,
- college graduates,
- white collar household members, and
- area residents 2-5 years.

Area Knowledge of Seagrasses

Seagrasses are among the most important features of the Charlotte Harbor estuary. To help determine the public's awareness of seagrasses, survey respondents were asked what the term "seagrass" means to them. Nearly 37% gave a correct description or definition of "seagrasses" (Table 8). Similarly, 38% gave incorrect definitions, while 25% did not know. These response patterns are almost identical to those seen in the baseline survey. Public knowledge of what seagrasses are has remained consistent over the year between the surveys.

TABLE 7

INFLUENCE OF FRESHWATER ON MARINE LIFE - December 84

QUESTION: The amount of freshwater entering Charlotte Harbor and the surrounding waters does not greatly influence the healthy development of marine plants and animals in the Harbor. Do you agree or disagree?

	Agree	Disagree	Don't Know	(n)*
TOTAL	27.3%	52.1	20.6	380
COUNTY				
Charlotte	38.6%	54.8	6.6	96
Lee	23.4%	51.2	25.4	284
AGE				
18-34	24.7%	63.9	11.4	88
35-54	27.9%	48.5	23.7	94
55+	28.5%	48.4	23.2	190
SEX				
Female	24.7%	49.6	25.7	198
Male	30.3%	55.1	14.6	181
EDUCATION				
Grade-High School	29.9%	44.9	25.2	183
Post-Secondary	28.8%	52.3	18.9	109
College Graduate	20.6%	67.0	12.5	85
MAIN WAGE EARNER OCCUPATION				
White Collar	24.0%	63.9	12.1	114
Blue Collar	26.4%	47.2	26.4	84
Retired	30.9%	46.5	22.5	165
INCOME				
Under $15,000	30.4%	47.1	22.5	108
$15,000-$24,999	26.2%	48.9	24.9	81
$25,000+	25.8%	58.8	15.3	104
LENGTH AREA RESIDENCE				
1 Year or Less	25.1%	48.3	26.6	72
2-5 Years	22.3%	62.2	15.4	100
6 or More Years	30.6%	48.6	20.8	204
RESIDENCE				
On the Water	29.4%	58.3	12.3	107
Inland	26.1%	50.1	23.7	270
MANGROVE DEFINITION				
Correct	21.1%	57.7	21.1	113
Incorrect	26.5%	53.4	20.0	225
Other	38.5%	61.5	0.0	7
Don't Know	49.3%	23.9	26.9	36
FISHING, CLAMMING, CRABBING				
Yes	40.7%	53.4	5.8	127
No	20.1%	52.5	27.5	243
EATEN SEAFOOD PAST MONTH				
No	22.4%	47.4	30.2	88
1-3 Times	26.3%	54.1	19.7	108
4 or More Times	30.4%	53.2	16.4	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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TABLE 8

MEANING OF SEAGRASSES - December 84

QUESTION: What does the word "seagrasses" mean to you?

	Correct Definition	Incorrect Definition	Don't Know	(n)*
TOTAL	36.7%	38.6	24.7	380
COUNTY				
Charlotte	35.3%	44.9	19.8	96
Lee	37.2%	36.5	26.3	284
AGE				
18-34	39.8%	45.2	15.1	88
35-54	38.3%	33.5	28.2	94
55+	35.7%	38.4	25.9	190
SEX				
Female	34.6%	37.5	27.9	198
Male	38.6%	40.1	21.3	181
EDUCATION				
Grade-High School	28.7%	39.7	31.6	183
Post-Secondary	46.0%	35.1	18.9	109
College Graduate	41.7%	40.2	18.1	85
MAIN WAGE EARNER OCCUPATION				
White Collar	37.8%	38.9	23.3	114
Blue Collar	35.8%	37.7	26.4	84
Retired	35.4%	38.8	25.8	165
INCOME				
Under $15,000	37.3%	33.8	28.9	108
$15,000-$24,999	38.7%	40.3	21.0	81
$25,000+	39.9%	40.2	19.9	104
LENGTH AREA RESIDENCE				
1 Year or Less	31.7%	43.9	24.4	72
2-5 Years	37.2%	36.7	26.1	100
6 or More Years	38.5%	37.6	23.9	204
RESIDENCE				
On the Water	39.5%	39.3	21.2	107
Inland	35.5%	38.4	26.1	270
MANGROVE DEFINITION				
Correct	48.4%	33.8	17.8	113
Incorrect	33.7%	42.5	23.8	225
Other	61.5%	15.4	23.1	7
Don't Know	13.4%	34.3	52.2	36
FISHING, CLAMMING, CRABBING				
Yes	45.9%	38.2	15.9	127
No	33.4%	38.3	28.4	243
EATEN SEAFOOD PAST MONTH				
No	34.4%	31.7	33.8	88
1-3 Times	32.9%	44.5	22.6	108
4 or More Times	40.1%	38.3	21.6	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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Respondents with post-secondary or college educations, those giving a correct definition of the word "mangroves," and those who have fished, clammed or crabbed in the area are more likely to correctly describe seagrasses.

When asked what contribution seagrasses make to Charlotte Harbor, a substantial number of respondents gave answers which fell into several categories (Table 9).

The following five responses are most often mentioned by follow-up respondents:

- food for marine life (36%)
- habitat for marine life (25%)
- stabilize the bottom (19%)
- protect marine life (16%)
- water clarity (12%)

The categories "habitat for marine life" and "stabilize the bottom" show approximate 10% increases. "Water clarity" replaced "oxygen production" as the fifth most often mentioned contribution.

TABLE 9

CONTRIBUTION OF SEAGRASSES TO CHARLOTTE HARBOR - December 84

QUESTION: Based on what you know or have heard, how do you think seagrasses contribute to Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

	Food for Marine Life	Habitat for Marine Life	Stabilize the Bottom	Protect Marine Life	Water Clarity	(n)*
TOTAL	36.3%	25.3%	18.5%	16.0%	12.0%	380
COUNTY						
Charlotte	32.2	25.3	21.8	18.2	8.8	96
Lee	37.7	25.3	17.4	15.3	13.1	284
AGE						
18-34	50.6	26.5	22.9	15.7	20.5	88
35-54	40.0	22.8	18.6	12.4	12.4	94
55+	27.8	25.9	17.2	18.7	8.4	190
SEX						
Female	33.8	25.7	18.2	13.4	8.8	198
Male	39.3	25.0	18.3	19.0	15.5	181
EDUCATION						
Grade-High School	31.3	25.2	13.9	13.6	9.9	183
Post-Secondary	39.2	25.4	23.2	19.4	18.4	109
College Graduate	41.4	24.9	22.7	17.4	8.7	85
MAIN WAGE EARNER OCCUPATION						
White Collar	39.2	20.3	23.8	13.1	14.9	114
Blue Collar	44.7	28.9	15.7	16.4	11.3	84
Retired	28.5	27.1	16.9	17.7	9.3	165
INCOME						
Under $15,000	30.4	23.0	21.1	14.2	9.8	108
$15,000-$24,999	43.6	28.9	16.1	11.8	7.9	81
$25,000+	41.4	24.3	20.5	19.9	18.9	104
LENGTH AREA RESIDENCE						
1 Year or Less	29.9	19.9	23.2	11.1	11.1	72
2-5 Years	33.5	23.9	18.1	18.6	20.2	100
6 or More Years	40.8	28.0	16.9	16.4	8.6	204
RESIDENCE						
On the Water	39.5	24.4	15.3	15.8	14.8	107
Inland	35.0	25.9	19.1	16.3	11.0	270
MANGROVE DEFINITION						
Correct	39.4	31.9	25.4	16.9	15.5	113
Incorrect	34.8	22.5	16.2	15.1	11.1	225
Other	61.5	15.4	0.0	38.5	0.0	7
Don't Know	31.3	23.9	14.9	14.9	9.0	36
FISHING, CLAMMING, CRABBING						
Yes	46.8	28.6	21.3	21.3	13.4	127
No	32.0	24.2	17.3	13.5	11.8	243
EATEN SEAFOOD PAST MONTH						
No	29.9	18.1	25.1	10.3	11.5	88
1-3 Times	43.7	30.7	17.2	20.1	10.3	108
4 or More Times	35.1	25.4	16.4	15.8	13.5	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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TABLE 15

KNOWLEDGE OF MARINE NURSERY AREAS - December 84

QUESTION: Based on what you know or have heard, do you think that bays and lagoons, such as Charlotte Harbor, are marine nursery areas for young fish?

	Yes	Maybe	No	DK/ Refused	(n)*
TOTAL	83.1%	4.0	2.5	10.3	380
COUNTY					
Charlotte	83.5%	4.4	3.3	8.8	96
Lee	83.0%	3.9	2.2	10.8	284
AGE					
18-34	86.1%	5.4	3.6	4.8	88
35-54	84.2%	3.9	1.1	10.7	94
55+	82.4%	3.6	2.8	11.2	190
SEX					
Female	77.7%	5.6	2.1	14.5	198
Male	88.9%	2.3	2.9	5.8	181
EDUCATION					
Grade-High School	79.1%	4.1	2.0	14.8	183
Post-Secondary	85.0%	4.8	4.8	5.3	109
College Graduate	90.0%	1.9	0.6	7.5	85
MAIN WAGE EARNER OCCUPATION					
White Collar	86.5%	4.2	4.2	5.1	114
Blue Collar	82.4%	5.0	2.5	10.1	84
Retired	82.3%	3.2	1.6	12.9	165
INCOME					
Under $15,000	80.4%	4.4	3.4	11.8	108
$15,000-$24,999	78.4%	5.2	3.9	12.5	81
$25,000+	94.9%	3.1	0.5	1.5	104
LENGTH AREA RESIDENCE					
1 Year or Less	80.8%	4.4	4.4	10.3	72
2-5 Years	89.4%	0.5	1.6	8.5	100
6 or More Years	81.3%	5.7	2.3	10.7	204
RESIDENCE					
On the Water	88.6%	3.0	2.0	6.4	107
Inland	81.0%	4.5	2.7	11.8	270
MANGROVE DEFINITION					
Correct	85.4%	7.5	1.4	5.6	113
Incorrect	84.4%	2.6	2.1	10.8	225
Other	100.0%	0.0	0.0	0.0	7
Don't Know	64.2%	3.0	9.0	23.9	36
FISHING, CLAMMING, CRABBING					
Yes	91.6%	2.5	0.4	5.4	127
No	80.2%	5.0	2.6	12.2	243
EATEN SEAFOOD PAST MONTH					
No	75.2%	4.8	4.2	15.7	88
1-3 Times	84.3%	3.9	3.4	8.4	108
4 or More Times	86.5%	3.8	0.6	9.1	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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MGT MARKET RESEARCH

Follow-up respondents most frequently mention three things that cause the greatest damage to Charlotte Harbor seagrasses (Table 10). Pollution and toxic waste runoff (60%) is most often cited as a major cause of damage to seagrasses. In addition, boat traffic (27%) and housing, seawall construction and development (24%) are also mentioned. The first two damage causing factors are also mentioned in baseline survey responses, though not as often. Residents appear to feel more concern over housing and development and their damaging effects on natural resources now than at the time of the first survey.

Knowledge Concerning Mangroves

As in the baseline survey, residents were asked to define the word "mangroves." Approximately 3 of every 10 respondents can correctly describe or define "mangroves" (Table 11). Incorrect definitions are provided by 59%; 2% give definitions that can not be classified as either right or wrong. Additionally, 9% choose not to answer this question. The proportion of correct descriptions was slightly lower in 1984 than in 1983 (35% - 30%); the proportion of incorrect responses was markedly higher (44% - 59%). The percent of decline in correct definitions is within the rate of sampling error anticipated for samples of 350-400. However, the substantial increase in incorrect descriptions does reflect a statistically significant difference.

TABLE 10

THINGS THAT DAMAGE SEAGRASSES - December 84

QUESTION: There are many different things that can damage seagrasses. In your opinion, what are the things that cause the greatest damage to seagrasses in Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

	Pollution, Toxic Waste	Boat Traffic, Boat Props	Housing, Seawalls Development	(n)*
TOTAL	59.8%	27.2%	24.1%	380
COUNTY				
Charlotte	68.9	29.8	24.2	96
Lee	56.7	26.3	24.1	284
AGE				
18-34	62.0	31.9	24.7	88
35-54	66.2	25.4	15.8	94
55+	55.8	27.1	28.7	190
SEX				
Female	58.7	31.4	22.5	198
Male	60.7	22.2	25.4	181
EDUCATION				
Grade-High School	56.5	24.9	21.7	183
Post-Secondary	61.3	30.0	29.1	109
College Graduate	64.8	29.3	23.1	85
MAIN WAGE EARNER OCCUPATION				
White Collar	69.7	28.0	27.5	114
Blue Collar	52.2	25.8	23.9	84
Retired	54.4	27.4	22.2	165
INCOME				
Under $15,000	60.3	22.5	19.6	108
$15,000-$24,999	55.7	29.5	26.9	81
$25,000+	64.7	33.2	32.2	104
LENGTH AREA RESIDENCE				
1 Year or Less	62.7	21.4	19.9	72
2-5 Years	63.3	37.2	20.7	100
6 or More Years	57.9	23.9	26.8	204
RESIDENCE				
On the Water	58.5	23.2	24.2	107
Inland	60.1	29.0	24.3	270
MANGROVE DEFINITION				
Correct	65.7	31.5	32.4	113
Incorrect	57.7	25.7	20.8	225
Other	30.8	23.1	23.1	7
Don't Know	59.7	23.9	19.4	36
FISHING, CLAMMING, CRABBING				
Yes	59.9	26.7	30.1	127
No	60.6	27.7	20.7	243
EATEN SEAFOOD PAST MONTH				
No	53.2	26.0	13.9	88
1-3 Times	70.0	22.6	29.5	108
4 or More Times	56.7	30.4	25.7	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

18888.0

TABLE 11

MEANING OF MANGROVES - December 84

QUESTION: What does the word "mangroves" mean to you?

	Correct	Incorrect	Other	DK/Refused	(n)*
TOTAL	29.7%	59.1	1.8	9.3	380
COUNTY					
Charlotte	23.7%	59.2	1.1	16.0	96
Lee	31.7%	59.1	2.1	7.1	284
AGE					
18-34	31.9%	54.8	3.6	9.6	88
35-54	27.0%	63.4	1.7	7.9	94
55+	30.7%	57.9	1.1	10.3	190
SEX					
Female	28.4%	59.0	0.5	12.1	198
Male	30.7%	59.6	3.2	6.4	181
EDUCATION					
Grade-High School	27.8%	58.3	1.2	12.8	183
Post-Secondary	31.5%	60.3	1.0	7.3	109
College Graduate	32.4%	58.3	4.4	5.0	85
MAIN WAGE EARNER OCCUPATION					
White Collar	29.4%	57.6	4.2	8.9	114
Blue Collar	32.1%	57.9	0.0	10.1	84
Retired	28.3%	62.0	0.6	9.0	165
INCOME					
Under $15,000	26.0%	57.8	1.0	15.2	108
$15,000-$24,999	34.1%	56.1	0.0	9.8	81
$25,000+	31.2%	61.1	2.6	5.1	104
LENGTH AREA RESIDENCE					
1 Year or Less	25.1%	57.2	1.5	16.2	72
2-5 Years	33.0%	58.5	2.1	6.4	100
6 or More Years	29.9%	59.9	1.8	8.3	204
RESIDENCE					
On the Water	29.6%	62.5	2.0	5.9	107
Inland	29.6%	57.8	1.8	10.8	270
FISHING, CLAMMING, CRABBING					
Yes	33.8%	57.8	1.7	6.7	127
No	28.4%	60.3	2.0	9.4	243
EATEN SEAFOOD PAST MONTH					
No	24.8%	61.3	1.8	12.1	88
1-3 Times	33.4%	53.3	2.0	11.3	108
4 or More Times	29.5%	61.7	1.8	7.0	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

18889.0

Follow-up respondents agree that mangroves make several specific contributions to Charlotte Harbor (Table 12).

The most frequently mentioned contribution is stabilization of the shoreline (49%). Other contributions frequently cited are:

- habitat for marine life (30%)
- rookeries (18%)
- food for marine life (16%)
- upland protections from floods, storms, and winds (12%)

These response patterns are similar to those identified in the 1983 baseline survey. Residents' perceptions of the value and contribution of mangroves have remained consistent. "Stabilizing shorelines" was mentioned by about 10% more respondents in 1984 than in the 1983 baseline survey.

Over 4 of 10 respondents (42%) disagree with the statement that only one type of mangrove grows along the Charlotte Harbor coast (Table 13). Just 14% agree with this statement, while 44% say they don't know. Compared to 1983 figures, these response percentages illustrate some increase in respondents who "disagree" (30% -42%) and a reduction in those who say they don't know (54% -44%).

Follow-up responses indicate that younger respondents, males, college graduates, those from white collar households, and residents who have gone fishing, clamming or crabbing in the harbor area are more likely to disagree.

TABLE 12

MANGROVES' CONTRIBUTION TO CHARLOTTE HARBOR - December 84

QUESTION: Based on what you know or have heard, how do mangroves contribute to Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

	Stabilize Shorelines	Habitat for Marine Life	Breeding Habitat for Birds (Rookeries)	Food for Marine Life	Upland Protection from Floods Storms, Winds	(n)*
TOTAL	49.0%	29.9%	18.0%	15.9%	11.6%	380
COUNTY						
Charlotte	52.3	34.2	17.1	18.2	6.6	96
Lee	47.8	28.5	18.3	15.1	13.3	284
AGE						
18-34	46.4	22.9	24.7	11.4	16.3	88
35-54	47.9	29.0	27.0	17.5	10.1	94
55+	51.3	33.5	11.2	16.2	10.0	190
SEX						
Female	46.4	26.0	20.1	13.1	9.9	198
Male	52.0	33.8	15.2	19.0	13.5	181
EDUCATION						
Grade-High School	43.5	22.9	16.2	15.4	9.0	183
Post-Secondary	46.0	33.2	19.4	13.1	15.0	109
College Graduate	64.2	40.5	20.6	19.9	13.1	85
MAIN WAGE EARNER OCCUPATION						
White Collar	55.5	24.9	25.2	20.0	10.3	114
Blue Collar	33.3	20.1	24.5	12.6	10.7	84
Retired	51.9	38.3	10.3	15.1	11.9	165
INCOME						
Under $15,000	45.6	27.0	14.7	11.8	10.8	108
$15,000-$24,999	48.5	32.1	14.4	13.8	11.1	81
$25,000+	51.7	25.8	24.6	17.4	14.3	104
LENGTH AREA RESIDENCE						
1 Year or Less	45.0	22.9	15.5	14.0	13.3	72
2-5 Years	52.1	25.5	15.4	10.1	13.3	100
6 or More Years	48.9	33.7	20.5	19.8	10.4	204
RESIDENCE						
On the Water	50.4	39.3	10.9	17.3	12.8	107
Inland	48.9	26.5	20.6	15.1	10.4	270
MANGROVE DEFINITION						
Correct	56.8	31.0	20.7	18.8	13.6	113
Incorrect	46.7	31.5	18.9	14.9	12.3	225
Other	61.5	30.8	30.8	46.2	0.0	7
Don't Know	35.8	16.4	1.5	7.5	3.0	36
FISHING, CLAMMING, CRABBING						
Yes	47.6	38.6	19.6	24.2	14.2	127
No	50.8	26.2	17.2	12.2	10.3	243
EATEN SEAFOOD PAST MONTH						
No	41.1	19.3	18.1	7.3	10.3	88
1-3 Times	49.1	31.2	20.1	21.6	13.3	108
4 or More Times	52.6	34.2	17.0	16.4	11.4	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

TABLE 13

ONE TYPE OF MANGROVE - December 84

QUESTION: There is only one type of mangrove tree that grows along the Charlotte Harbor Coast. Do you agree or disagree?

	Agree	Disagree	Don't Know	(n)*
TOTAL	14.3%	42.2	43.5	380
COUNTY				
Charlotte	17.6%	43.3	39.1	96
Lee	13.2%	41.8	45.0	284
AGE				
18-34	8.4%	60.2	31.3	88
35-54	17.7%	43.9	38.3	94
55+	14.8%	34.2	51.0	190
SEX				
Female	15.0%	35.1	49.9	198
Male	13.6%	50.1	36.3	181
EDUCATION				
Grade-High School	16.5%	34.8	48.7	183
Post-Secondary	12.8%	41.2	46.0	109
College Graduate	11.8%	60.1	28.0	85
MAIN WAGE EARNER OCCUPATION				
White Collar	11.0%	54.1	35.0	114
Blue Collar	17.0%	45.3	37.7	84
Retired	16.1%	30.4	53.5	165
INCOME				
Under $15,000	14.7%	39.2	46.1	108
$15,000-$24,999	18.4%	38.4	43.3	81
$25,000+	16.1%	50.1	33.8	104
LENGTH AREA RESIDENCE				
1 Year or Less	8.1%	41.0	50.9	72
2-5 Years	10.6%	48.4	41.0	100
6 or More Years	18.1%	40.6	41.4	204
RESIDENCE				
On the Water	12.1%	47.4	40.5	107
Inland	14.7%	40.5	44.7	270
MANGROVE DEFINITION				
Correct	14.1%	46.0	39.9	113
Incorrect	14.0%	42.1	43.9	225
Other	15.4%	38.5	46.2	7
Don't Know	16.4%	31.3	52.2	36
FISHING, CLAMMING, CRABBING				
Yes	16.1%	53.0	30.9	127
No	13.7%	36.8	49.5	243
EATEN SEAFOOD PAST MONTH				
No	13.9%	39.0	47.1	88
1-3 Times	12.5%	44.2	43.2	108
4 or More Times	15.5%	42.1	42.4	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

188811.0

Knowledge of Estuaries

Nearly 28% of the respondents are able to give a correct description or definition of "estuaries" (Table 14). Over a third (35%) give incorrect definitions while 37% do not answer the question.

This shows an increase from 1983 to 1984 in the percent of correct answers and a corresponding decrease in the percent of nonresponses. However, these differences do not reflect a statistically significant variation. Similar patterns of incorrect responses were identified in both surveys.

Follow-up survey data show that respondents who attended college, are 55 years or older, male, or retired are more likely to give a correct definition of the word "estuaries."

Most follow-up respondents (83%) are aware that bays and lagoons such as Charlotte Harbor serve as marine nursery areas for young fish (Table 15). Very few (3%) say Charlotte Harbor is not a marine nursery area while 4% say it might be and 10% do not know. These figures are nearly identical to results found in the 1983 baseline survey. No substantive differences in responses were noted among sub-categories.

Survey respondents who said they felt bays and lagoon areas serve as marine nurseries, were asked to estimate the percentage of saltwater fish which use these areas. Four of ten respondents estimated that more than 50% of Florida's saltwater fish use areas such as Charlotte Harbor as marine nurseries (Table 16).

TABLE 14

MEANING OF ESTUARY - December 84

QUESTION: What does the word "estuary" mean to you?

	Correct Definition	Incorrect Definition	Don't Know	(n)*
TOTAL	27.8%	35.4	36.9	380
COUNTY				
Charlotte	24.8%	33.1	42.1	96
Lee	28.8%	36.1	35.1	284
AGE				
18-34	20.5%	36.1	43.4	88
35-54	18.6%	40.8	40.6	94
55+	34.6%	32.6	32.8	190
SEX				
Female	20.6%	33.5	45.8	198
Male	35.7%	37.0	27.3	181
EDUCATION				
Grade-High School	15.1%	34.2	50.7	183
Post-Secondary	35.8%	38.0	26.2	109
College Graduate	44.2%	34.3	21.5	85
MAIN WAGE EARNER OCCUPATION				
White Collar	22.8%	44.5	32.6	114
Blue Collar	18.2%	37.7	44.0	84
Retired	37.4%	28.7	34.0	165
INCOME				
Under $15,000	21.1%	34.8	44.1	108
$15,000-$24,999	30.8%	30.8	38.4	81
$25,000+	33.2%	41.7	25.1	104
LENGTH AREA RESIDENCE				
1 Year or Less	20.7%	32.5	46.9	72
2-5 Years	30.3%	33.0	36.7	100
6 or More Years	28.6%	37.8	33.6	204
RESIDENCE				
On the Water	37.0%	36.3	26.7	107
Inland	24.3%	35.3	40.3	270
MANGROVE DEFINITION				
Correct	31.9%	41.8	26.3	113
Incorrect	28.1%	34.6	37.4	225
Other	46.2%	38.5	15.4	7
Don't Know	9.0%	19.4	71.6	36
FISHING, CLAMMING, CRABBING				
Yes	25.9%	44.5	29.6	127
No	29.9%	30.5	39.6	243
EATEN SEAFOOD PAST MONTH				
No	23.0%	29.6	47.4	88
1-3 Times	20.1%	37.6	42.3	108
4 or More Times	34.8%	36.5	28.7	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

188812.0

TABLE 16

PERCENTAGE OF FISH USING BAYS/LAGOONS AS NURSERIES - December 84

QUESTION: About what percentage of Florida's saltwater fish would you estimate use bays or lagoons as nurseries?

	25% or Less	26-50%	51-75%	76-100%	DK/ Refused	(n)*
TOTAL	12.5%	26.2	19.8	20.4	21.1	331
COUNTY						
Charlotte	8.8%	33.2	15.7	20.4	21.9	85
Lee	13.7%	23.7	21.3	20.4	20.8	247
AGE						
18-34	14.5%	30.3	23.7	19.1	12.5	81
35-54	13.4%	26.5	15.3	25.6	19.2	83
55+	11.3%	24.0	19.4	19.0	26.3	164
SEX						
Female	12.5%	26.0	17.0	19.3	25.1	165
Male	12.5%	25.8	22.8	21.6	17.3	165
EDUCATION						
Grade-High School	13.9%	25.8	18.8	18.8	22.6	152
Post-Secondary	10.2%	23.5	25.9	22.1	18.3	98
College Graduate	12.9%	30.5	14.9	22.0	19.7	78
MAIN WAGE EARNER OCCUPATION						
White Collar	10.8%	30.6	13.9	25.7	19.0	103
Blue Collar	20.9%	27.3	21.6	20.1	10.1	74
Retired	10.5%	23.7	21.1	17.9	26.7	141
INCOME						
Under $15,000	13.3%	33.5	21.4	11.6	20.2	92
$15,000-$24,999	9.4%	29.0	21.2	27.1	13.3	68
$25,000+	15.7%	26.4	17.8	25.6	14.6	101
LENGTH AREA RESIDENCE						
1 Year or Less	10.4%	31.2	15.6	18.6	24.2	61
2-5 Years	13.6%	21.9	22.5	20.7	21.3	90
6 or More Years	12.3%	27.1	20.3	20.6	19.7	177
RESIDENCE						
On the Water	8.6%	29.9	17.8	24.3	19.4	98
Inland	14.2%	24.8	20.4	18.5	22.0	231
MANGROVE DEFINITION						
Correct	10.6%	29.8	18.7	19.2	21.7	105
Incorrect	13.0%	24.5	21.7	21.0	19.8	196
Other	15.4%	0.0	7.7	46.2	30.8	7
Don't Know	15.6%	31.1	13.3	13.3	26.7	24
FISHING, CLAMMING, CRABBING						
Yes	7.5%	33.0	22.6	21.7	15.1	120
No	14.3%	22.8	18.7	19.6	24.6	207
EATEN SEAFOOD PAST MONTH						
No	16.6%	23.4	12.1	16.2	31.7	70
1-3 Times	11.1%	29.8	26.7	16.7	15.6	95
4 or More Times	11.7%	25.2	19.4	24.6	19.1	164

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

188814.0

A lower percentage of baseline respondents gave estimates of more than 50%. Over one-fifth (21%) of follow-up respondents would not give an estimate.

One additional question was asked about natural resources and economic growth. Residents were asked to agree or disagree with the statement that wildlife and natural resource conservation programs are hindering Charlotte Harbor area economic growth. More than 6 of 10 residents (61%) disagree (Table 17). Twenty-four percent feel such programs hinder the area's economic increase, while 16% say they do not know. This reflects an approximate 10% increase, from baseline to follow-up survey, in respondents who disagree with the statement.

Charlotte County residents are more likely to disagree than residents of more densely populated Lee County. Respondents who reported having gone fishing, clamming or crabbing in Charlotte Harbor waters were also more likely to disagree with the statement.

Information Sources

The Charlotte Harbor Estuarine project was conducted in three phases, a baseline survey, an information campaign, and a follow-up assessment of knowledge, awareness and attitudes. Following the completion of the baseline survey in December 1983, DNR staff based an informational campaign on these measures of residents' knowledge of and attitudes toward the Charlotte Harbor estuary.

TABLE 17

ECONOMIC GROWTH HINDERED BY CONSERVATION PROGRAMS - December 84

QUESTION In general, wildlife and natural resource conversation programs are hindering the economic growth of the Charlotte Harbor area. Do you agree or disagree?

	Agree	Disagree	Don't Know	(n)*
TOTAL	23.8%	60.7	15.5	380
COUNTY				
Charlotte	18.2%	75.2	6.6	96
Lee	25.7%	55.8	18.5	284
AGE				
18-34	22.9%	63.9	13.3	88
35-54	21.7%	67.0	11.3	94
55+	24.3%	57.6	18.1	190
SEX				
Female	18.8%	61.9	19.3	198
Male	29.4%	59.2	11.4	181
EDUCATION				
Grade-High School	26.1%	53.6	20.3	183
Post-Secondary	25.9%	62.5	11.6	109
College Graduate	16.8%	75.1	8.1	85
MAIN WAGE EARNER OCCUPATION				
White Collar	17.5%	69.5	13.1	114
Blue Collar	30.8%	53.5	15.7	84
Retired	24.5%	59.1	16.4	165
INCOME				
Under $15,000	22.1%	63.7	14.2	108
$15,000-$24,999	26.9%	53.4	19.7	81
$25,000+	21.2%	70.6	8.2	104
LENGTH AREA RESIDENCE				
1 Year or Less	25.8%	54.2	19.9	72
2-5 Years	20.7%	68.6	10.6	100
6 or More Years	24.6%	59.0	16.4	204
RESIDENCE				
On the Water	23.5%	66.7	9.9	107
Inland	24.1%	58.0	17.9	270
MANGROVE DEFINITION				
Correct	25.4%	62.0	12.7	113
Incorrect	22.3%	62.6	15.1	225
Other	15.4%	84.6	0.0	7
Don't Know	29.9%	40.3	29.9	36
FISHING, CLAMMING, CRABBING				
Yes	24.0%	70.1	5.8	127
No	22.9%	58.3	18.8	243
EATEN SEAFOOD PAST MONTH				
No	27.8%	50.5	21.8	88
1-3 Times	21.4%	65.8	12.8	108
4 or More Times	22.8%	63.5	13.7	181

*Sub-group responses may not sum to total sample (n) due to refusals and rounding.

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Public Service Announcements (PSAs) were produced for radio and television. Three TV stations in Ft. Myers and one in Sarasota were given copies of three 30-second PSA's emphasizing Charlotte Harbor's seagrasses, mangroves and estuaries as key themes. DNR staff requested that the PSA's be aired during prime time whenever possible. No logs are available to check the air frequency and viewership in the various TV markets, but the PSA's apparently were broadcast often during prime time.

Similar audio PSA's were distributed to 13 radio stations in Ft. Myers, Sarasota, Cape Coral and Naples along with an accompanying DNR news release.

In addition, articles arranged by DNR or editorials concerning Charlotte Harbor's natural resources appeared in area newspapers from August through October, 1984. Billboards and bumperstickers are two other informational message forms employed in the DNR Charlotte Harbor Estuary campaign.

During the follow-up survey, several questions were asked in order to determine resident's exposure to these informational messages from specific media and personal sources. Those who reported receiving such information were then asked if it referred to Charlotte Harbor, and if it were sponsored by DNR.

Newspapers (45%), and TV (34%) are the two media cited most often as sources of information (Table 18).

TABLE 18

INFORMATION SOURCES

During the last 3 months, have you received any information about Florida's mangroves, seagrasses or estuaries from:

YES	NO	
34.4%	65.6	TV
10.7%	89.3	Radio
45.3%	54.7	Newspapers
7.3%	92.7	Billboards
17.4%	82.6	Bumperstickers
14.2%	85.8	Relatives and Friends

Did this information refer to Charlotte Harbor?

[ASK FOR EACH INFORMATION SOURCE MENTIONED IN Q23.]

YES	NO	DK	(n)	
47.1%	52.9	19.1%	(131)	TV
49.3%	50.8	15.6%	(41)	Radio
54.0%	46.0	15.4%	(172)	Newpapers
25.1%	75.1	15.4%	(28)	Billboards
33.0%	67.0	12.8%	(66)	Bumperstickers
49.5%	50.5	8.8%	(54)	Relatives and Friends

Was this information sponsored by the Florida Department of Natural Resources?

[ASK FOR EACH INFORMATION SOURCE MENTIONED IN Q23.]

YES	NO	DK	(n)	
57.9%	42.1	43.2%	(131)	TV
58.8%	41.4	40.3%	(41)	Radio
37.9%	62.1	44.8%	(172)	Newpapers
58.1%	42.2	63.5%	(28)	Billboards
50.0%	50.0	50.4%	(66)	Bumperstickers

Approximately half of the respondents receiving information from each source indicate that Charlotte Harbor was mentioned in the message. Smaller percentages of respondents specifically recall mention of Charlotte Harbor on billboards and bumperstickers.

Over 50% say that the information they received from each source was sponsored by DNR. Thirty-eight percent say the information they received from newspaper articles and editorials was not sponsored by DNR.

Because follow-up questions regarding informational sources were reworded, only limited comparisons of the two surveys should be made.

However, patterns of response to the follow-up questions regarding information about Florida's mangroves, seagrasses and estuaries (Q.23, Appendix III) are quite similar to those for baseline items concerning Florida marine and natural resources information (Q. 35, Appendix II). This comparison reveals consistency of information reception and source usage for these topic areas over time. Also, the level of information flow has been maintained from one year to the next. The 1984 question asks for specific information regarding mangroves, seagrasses, and estuaries, while the 1983 question requests general information about Florida marine and natural resources. Though the response percentages are similar, the scope of the information reception measured has been narrowed by the question itself.

Since the informational campaign had concluded just prior to the follow-up survey, only short term immediate changes, if any, are being detected.

Advertising and persuasive message research suggests that effects of such campaigns are often slow to take hold and the public's attitudes and opinions are equally slow to reflect this change.

APPENDIX I

APPENDIX I

Technical Summary of Telephone
Sample Survey Methods

Sample Design

The sampling plan for the Charlotte Harbor survey followed a multiple stage probability design. The sampling frame was defined by the population of households with telephones in Charlotte and Lee Counties representing over 98% of all residents.

To obtain a representative sample of telephone households, irrespective of whether the telephone was listed, a random digit dialing procedure was employed.

An initial bank of phone exchanges was identified for "screened random digit dialing" through examination of all possible prefixes associated with Charlotte Harbor Survey phone numbers. Based on Florida Public Service Commission and Regional Telephone Company Records, working prefixes in the counties were matched with the legitimate banks of contiguous numbers. The banks of contiguous numbers were screened using the 1000 digits in the suffix. Unused or ineligible banks (phone booths, centrix exchanges, institutions) were excluded where possible. An equal number of randomly generated three digit combinations were then matched with each of the prefixes of the thousand digits. The resulting seven digits were then randomly listed and the numbers were called in order until a sample of 392 interviews was completed. Since each phone prefix in Charlotte and Lee Counties

had an equal probability of being selected, and since the proportion of working phone numbers and exchanges determines the probability that a single household would be phoned, the resulting random sample was self-weighted.

Telephone Interview Procedures

The random phone numbers were dialed using multiple call-back criteria:

- All ineligible phone numbers were deleted immediately once it was confirmed that the interviewer had reached a phone booth, business, government office or institution.
- Phone numbers that resulted in mechanical disconnects, "non-working", "disconnected", or "number changed" recordings were deleted from the sample pool.
- Random phone numbers that yielded households within the first six attempts fell into several categories
  - Refusals: Refusals were called again on a different day at another hour by a skilled interviewer designed to handle problem calls. If a second refusal resulted, the number was not called again.
  - Busy, No Answers: When busy, no answer dispositions occurred, a maximum of 6 attempts were made to complete the interview.
  - Call Backs: Scheduled call-backs were made when the randomly selected household member was not available, unable, or unwilling to be interviewed. Once again, no more than 6 attempts were made to complete the survey.
  - Interview Completion: No more than 6 attempts were made to interview individuals in Charlotte and Lee Counties telephone households.

Both horizontal (day) and vertical (hour) rotation procedures were applied for repeated, unscheduled calls. For example, a number that was unsuccessfully dialed on a Monday was called on another day for a second attempt. If this attempt was also unsuccessful, then a third call was attempted on still another day. Each number that was unsuccessfully dialed at 7:00 p.m. was called again, at a different time (e.g., 4:00 p.m.), for the second attempt. If this was also unsuccessful, still another distinct time was used for the third call.

Each phone number that required multiple attempts was dialed at minimum on:

- one weekend day
- two or more weekdays
- one time between 1 and 5 p.m.
- 2 or more times between 6:30 and 9:30 p.m.

Once a valid telephone household was contacted, the respondent was randomly selected from household members 18 years of age or older. Random selection procedures were applied using an elaborated version of the Troldahl-Carter selection tables. The telephone interview was then completed by experienced telephone interviewers. All data activities were completed under the immediate supervision of a Survey Manager and a Quality Control Manager. Approximately 10% of the telephone surveys were audited.

The survey interviews typically required 13-15 minutes to complete. All telephone interviews were completed during the period beginning December 8 and ending December 13, 1984.

The final distribution of calls across "4" disposition codes appears in Table 1. Approximately 1,299 phone numbers were required to complete the sample interviews with adult residents. A total of 309 households refused to participate. This represents a refusal rate of 43% for the Charlotte Harbor Survey sample.

TABLE 1

DISTRIBUTION OF SCREENED RANDOM DIGIT CALLS ACROSS FOUR FINAL DISPOSITION CATEGORIES

No Answer/Busy/Recording	528
Unsuccessful Call Backs (Maximum 6 Attempts)	25
Refusals (2 Attempts)	309
Completed Interviews	380
	1,242*

*Unique telephone calls.

Survey Results

The survey results are weighted to reflect the number of adults in the household and the number of telephone numbers that can be used to reach each household. The reader should remember that sample surveys are subject to error. The survey design, sampling methods and number of interviews largely determine the maximum sampling error that should be anticipated. Findings in this survey are considered accurate within a range of ± 5 percent, at the 95% confidence level. This range indicates the extent to which findings may differ from results that would be obtained if all area adults were interviewed.

We have provided four tables that should be used in estimating the error for percentages in this summary report. Table 2 should be used to make decisions about single observations for the total two-county sample. For example, if 20% of the total sample answered "yes" to a question, you should allow a ± 4% tolerance in interpreting this result. It is highly probable that 16 - 24% of the total Charlotte Harbor adult population would answer "yes" to the question.

TABLE 2

RECOMMENDED ALLOWANCES FOR (±) ERROR
WITH A SAMPLE OF 380 CHARLOTTE HARBOR ADULTS

Observed Findings Near	Estimated Error	Estimated Range for Total Charlotte County Adult Population
10%	± 3%	7-13%
20%	± 4%	16-24%
30%	± 5%	25-35%
40%	± 5%	35-45%
50%	± 5%	45-55%
60%	± 5%	55-65%
70%	± 5%	65-75%
80%	± 4%	76-84%
90%	± 3%	87-93%

The next three tables should be used when comparing results from different groups in the Charlotte Harbor survey.

Returning to the hypothetical question just mentioned, you may want to decide whether there is a difference between answers obtained from females and males in the Charlotte Harbor sample. Let's assume that 10% of the females and 25% of the males answered "yes" to a question. This equals an observed difference of (25%- 10%) 15%, but is there an appreciable difference between how adult males and females answered the question? Since these percentages are near 20%, you should look at Table 5. This sample had approximately one-half males and one-half females, therefore, you need to look at the row and column corresponding

to samples (groups) of 200. The appropriate row and column intersect at ± 10%. This means that the real difference between females' and males' answers to the question likely ranges between 5-25% (i.e., 15%, ± 10). You could conclude that adult females and males in the Charlotte Harbor area would answer the question differently though the difference might be small.

If you had observed that 18% of the female respondents and 23% of the males answered "yes", the actual difference would likely range from 0-15% (i.e., 5%, ± 10). Since the range includes "0", your should not conclude that an appreciable difference exists between the way females and males would answer the question.

TABLE 3

RECOMMENDED ALLOWANCES FOR (±) ERROR
IN COMPARING DIFFERENCES BETWEEN
TWO SAMPLES OR GROUPS

(For Observed Findings Near 50%)

Size of Sample (Group) I	Size of Sample (Group II)			
	400	300	200	100
400	10	10	12	14
300		11	12	15
200			13	16
100				18

TABLE 4

RECOMMENDED ALLOWANCES FOR (+) ERROR
IN COMPARING DIFFERENCES BETWEEN
TWO SAMPLES OR GROUPS

(For Observed Findings Near 35% or 65%)

Size of Sample (Group) I	Size of Sample (Group II)			
	400	300	200	100
400	9	10	11	13
300		10	11	14
200			12	15
100				17

TABLE 5

RECOMMENDED ALLOWANCES FOR (+) ERROR
IN COMPARING DIFFERENCES BETWEEN
TWO SAMPLES OR GROUPS

(For Observed Findings Near 20% or 80%)

Size of Sample (Group) I	Size of Sample (Group II)			
	400	300	200	100
400	8	9	10	11
300		9	10	12
200			10	13
100				15

APPENDIX II

APPENDIX II

DECEMBER 1983
(Baseline Survey)

INTRODUCTION

MGT/MARKET RESEARCH

FLORIDA DEPARTMENT OF NATURAL RESOURCES SURVEY

(n=392)

Hello. My name is _____. I'm calling from MGT/Market Research. We're doing a public opinion survey for the Florida Department of Natural Resources.

I'm calling people in your area to find out their ideas on some important issues facing residents in Charlotte and Lee Counties. This phone number has been chosen randomly. My questions will only take a few minutes and I would appreciate talking to someone in your household.

Before we start, however, could I please confirm this phone number?

I. Is this READ TELEPHONE NUMBER ?

YES--GO TO # II NO---Thank you, but I must have dialed the wrong number. I'm sorry for disturbing you.

II. Is this a residence?

YES--GO TO QUESTION # III NO---Thank you, but I was trying to reach a residence. I'm sorry for disturbing you.

III. Our survey requires that we interview only one household member.

In order to know which person to interview, I need some information.

READ
o How many adults in your household are 18 years of age or older? o How many of these adults are women?
SEE SELECTION TABLES

- - - - -

[Record number of adults and number of women on control sheet]

IF TALKING TO APPROPRIATE RESPONDENT---BEGIN SECTION "A".

IF NOT TALKING TO RESPONDENT AND:

- o NOT AVAILABLE OR CALL BACK---GO TO CONTROL SHEET AND RECORD DETAILS. INDICATE THE
  - NUMBER OF ADULTS, NUMBER OF WOMEN IN HOUSEHOLD
  - SELECTION TABLE DESCRIPTION
  - RESPONDENT'S NAME
  - CALL BACK INSTRUCTIONS.
- o AVAILABLE---WHEN ANSWERS GIVE FOLLOWING INTRODUCTION.

Hello. My name is _____. I'm calling from MGT/Market Research. We're doing a public opinion survey for the Florida Department of Natural Resources.

I'm calling people in your area to find out their ideas on some important issues facing residents in Charlotte and Lee Counties. This phone number has been chosen randomly. My questions will only take about 10-15 minutes and I would appreciate talking to you.

SECTION "A"

My first set of questions concerns the Charlotte Harbor area.

1. In your opinion, are you generally familiar with the Charlotte Harbor area and the surrounding waters?

(n = 392)

37.7%	Yes
11.0	Maybe, not sure
51.3	No
3.1%	DK/Refused*

2. How long have you lived in the Charlotte Harbor area?

12.7%	1 Year or Less
32.4	2-5 Years
23.0	6-10 Years
31.9	Over 10 Years
1.2%	DK/Refused

[85.9%	Permanent Resident]
[14.1	Temporary Resident]

3. How long have you lived in Florida?

8.8%	1 Year or Less
26.5	2-5 Years
21.8	6-10 Years
42.9	Over 10 Years
0.7%	DK/Refused

*Percentages above or to the left of the dashed line sum to 100%. The values represent the response given by survey respondents answering each question. Values below or to the right of the dashed line indicate the percentage of respondents who "did not know" (DK) or "refused" to answer each question.

4. Are you familiar with the rivers that flow into Charlotte Harbor?

47.1%	Yes
13.7	Maybe, not sure
39.2	No---SKIP TO Q. #6
2.9%	DK---SKIP TO Q. #6

5. What are the main rivers that flow into Charlotte Harbor?

(n=231)

Yes	No	
29.5%	70.5	Caloosahatchee
27.2%	72.8	Myakka
69.6%	30.4	Peace
9.3%	90.7	Other

6. Based on what you know or have heard, do you think the amount of freshwater flowing into Charlotte Harbor affects the marine plants and animals living in the Harbor?

(n=392)

59.8%	Yes
12.0	Maybe, not sure
28.2	No
31.7%	DK/Refused

7. What does the word "seagrasses" mean to you?

48.0%	Correct Definition
52.0	Incorrect Definition
25.0%	DK/Refused

8. What does the word "mangroves" mean to you?

40.6%	Correct Definition
51.1	Incorrect Definition
8.3	Other
14.6%	DK/Refused

My next few questions concern seagrasses and mangroves.

For the purpose of this survey, when I use the word seagrasses, I will be describing grasses that grow underwater in shallow bays and lagoons like Charlotte Harbor.

When I use the word mangroves, I will be talking about trees with prop-like roots that grow along the shores of Charlotte Harbor.

9. Based on what you know or have heard, how do you think seagrasses contribute to Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

32.5%	Food for marine life
15.4%	Protect marine life
15.3%	Habitat for marine life
9.1%	Stabilize the bottom
8.3%	Produce oxygen

10. There are many different things that can damage seagrasses. In your opinion, what are the things that cause the greatest damage to seagrasses in Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

54.4%	Pollution, toxic waste
26.0%	Boat traffic/boat props

11. The bays in South Florida are sometimes dredged in order to deepen the waterways. As far as you know, do seagrasses usually return to their original conditions after dredging?

34.7%	Yes
14.6	Maybe
50.7	No
32.1%	DK/Refused

12. Based on what you know or have heard, how do <u>mangroves</u> contribute to Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

38.6%	Stabilize shorelines
26.0%	Habitat for marine life
11.5%	Breeding habitat for birds (rookeries)
11.0%	Upland protection from floods, storms and winds
10.2%	Food for marine life

13. Based on what you know or have heard, do you think that bays and lagoons, such as Charlotte Harbor, are marine nursery areas for young fish?

92.1%	Yes
4.0	Maybe
3.9	No --- GO TO Q. #15
10.3%	DK --- GO TO Q. #15

14. About what percentage of Florida's saltwater fish would you estimate use bays or lagoons as nurseries?

IF UNSURE, PROMPT WITH:

"Would you estimate - - - 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% or 100%?

(n=338)

15.0%	25% or Less
42.0	26-50%
24.8	51-75%
18.2	76-100%

15. What does the word "estuary" mean to you?

(n=392)

35.1%	Correct Definition
64.9	Incorrect Definition
43.2%	DK/Refused

I'm going to read a list of things that are sometimes said about the Charlotte Harbor area. For each of the following statements, please tell me if you agree or disagree with the statement. If you are not certain, please tell me and I'll go to the next statement.

	Agree	Disagree	DK/ Refused
16. Charlotte Harbor and the surrounding waters waters are generally considered to be major fishery harvest areas.	88.2%	11.8	17.3%
17. Compared to others in Florida, Charlotte Harbor is one of Florida's healthiest, natural bay systems.	85.3%	14.7	37.2%
18. The amount of freshwater entering Charlotte Harbor and the surrounding waters does not greatly influence the healthy development of marine plants and animals in the harbor.	31.8%	68.2	27.2%
19. There is only one type of mangrove that grows along the Charlotte Harbor Coast.	33.8%	66.2	54.1%
20. The Florida Department of Natural Resources is using state-of-the-art technologies, including satellites, to aid scientific studies about Charlotte Harbor.	82.2%	17.8	62.4%
21. The Forsee tree is plentiful in the Charlotte Harbor area.	68.3%	31.7	89.0%
22. In general, wildlife and natural resource conservation programs are hindering the economic growth of the Charlotte Harbor area.	34.0%	66.0	21.7%

SECTION D

I'd like to finish this survey by getting some information about you.

23. During the last 30 days, about how many times have you eaten Florida seafood?

20.5%	None
32.6	1-3 Times
30.3	4-8 Times
16.6	9 or More Times
1.6%	DK/Refused

24. Have you ever gone fishing, clamming or crabbing in Charlotte Harbor?

39.7%	Yes---PROBE FOR FISHING - IF NO FISHING SKIP TO Q #27
60.3	No --- SKIP TO Q. 28
4.6%	DK/Refused --- SKIP TO Q. 28

25. What kind of fish do you usually try to catch in the Charlotte Harbor area?

[MULTIPLE RESPONSES ALLOWED]

(n=149)

54.9%	Redfish/Red Drum
50.2%	Spotted Sea Trout
40.8%	Snook (line sider)
17.4%	Sheepshead
7.0%	Tarpon
3.8%	Flounder
1.4%	Pompano

26. When you fish in Charlotte Harbor, do you usually fish from the shore, a pier, a bridge or a boat?

(n=149)

11.1%	Shore
11.1	Pier
8.9	Bridge
68.9	Boat
4.0%	DK/Refused

27. During the last year, about how many times have you gone fishing, clamming or crabbing in Charlotte Harbor?

(n=149)

21.7%	Never
27.9%	1-5 Times
12.6	6-10 Times
11.9	11-20 Times
25.9	More than 20 Times
4.0%	DK/Refused

28. Are you a member of a civic, conservation, fishing or hunting organization?

(n=392)

[MULITIPLE RESPONSES ALLOWED]

56.7%	Civic
34.3%	Conservation
10.4%	Fishing
4.5%	Hunting

IF YES:

What is/are the name(s) of your organization(s)?

29. Would you please tell me, how old were you on your last birthday?

7.7%	18-24
17.3	25-34
11.0	35-44
11.8	45-54
21.0	55-64
23.9	65-74
7.3	75 +
2.5%	Refused

30. What was the highest grade or year of school you completed?

3.7%	8 years or less
10.0	9-11 years
43.6	12 years, high school graduate
5.8	Business/Technical School
15.6	1-3 years college
14.5	4 years college, college graduate
4.6	Post graduate education
2.2	Completed graduate/professional school
1.2%	DK/Refused

31. Did you get a chance to vote during the last general election in the state where you lived?

72.6%	Yes
27.4	No
0.4%	DK/Refused

32. Do you own, lease or rent your home/apartment?

80.9%	Own
3.9	Lease
15.2	Rent
0.5%	DK/Refused

33. What is the zip code for the residence where I'm now calling?

34. Which of the following best describes where you live. Do you live on the water or do you live inland with no direct water access to Charlotte Harbor?

25.9%	On the water
74.1	Inland
0.8%	DK/Refused

35. During the last 3 months, have you received any information about Florida marine and natural resources from:

Yes	No	
37.3%	62.7	TV
14.7%	85.3	Radio
46.9%	53.1	Newspapers
18.7%	81.3	Magazines
24.5%	75.5	Billboards/Bumperstickers
22.1%	77.9	Relatives and Friends

36. During the last 3 months, have you received any information concerning Charlotte Harbor from:

Yes	No	
22.2%	77.8	TV
10.8%	89.2	Radio
34.0%	66.0	Newspapers
8.2%	91.8	Magazines
9.8%	90.2	Billboards/Bumper Stickers
15.0%	85.0	Relatives and Friends

37. Are there any other telephone numbers that can be used to reach this household?

IF YES:

How many nonbusiness telephone numbers do you have in this household?

99.2%	One Telephone
0.8	Two Telephones
0.0%	DK/Refused

38. Is this telephone number currently listed in your local phone book?

87.2%	Yes
	IF NO:
	Have you asked for your phone number to be unlisted?
5.4	No, DID NOT ASK
7.4	Yes, DID ASK FOR UNLISTED NUMBER
0.5%	DK/Refused

39. What type of work does the main wage-earner in this household do?

12.5%	*Professional/Technical
1.6	Farmers & Farm Managers
9.3	*Managers/Officials/Proprietors
8.2	*Clerical/Sales
10.5	*Craftsmen/Foremen
9.8	*Operatives/Service Workers
2.3	*Laborers
44.8	Retired
1.0	Not Employed, Unemployed
1.7%	DK/Refused

* PROBE WHERE APPROPRIATE:

Does the main wage earner work in the fishing or the building industry?

(n=70)

5.3%	Yes, Fishing
94.7	Yes, Building

40. For statistical purposes only, we need to know your total household income. Would you please tell me, is your total income:

(n=392)

13.0%	Under $7,500
6.7	$7,500 to $ 9,999
21.8	$10,000 to $14,999
27.7	$15,000 to $24,999
13.6	$25,000 to $34,999
10.6	$35,000 or $49,999
3.9	$50,000 to $74,999
2.7	$75,000 or more
22.0%	DK/Refused

41. What is your race? Are you:

95.9%	White
1.8	Black
1.5	White Hispanic
0.0	Non-White Hispanic
0.3	American Indian
0.0	Oriental
0.5	Other
1.2%	Refused

That's all of my questions. You've been very helpful and I want to thank you for your time and answers.

Goodbye!

County	28.2%	Charlotte
	71.8	Lee
Sex of respondent.		
	52.7%	Female
	47.3	Male

APPENDIX III

DECEMBER 1984
(Follow-up Survey)

APPENDIX III

INTRODUCTION

MGT/MARKET RESEARCH
FLORIDA DEPARTMENT OF NATURAL RESOURCES SURVEY
(n=380)

Hello. My name is _____. I'm calling from MGT/Market Research. We're doing a public opinion survey for the Florida Department of Natural Resources.

I'm calling people in your area to find out their ideas on some important issues facing residents in Charlotte and Lee Counties. This phone number has been chosen randomly. My questions will only take a few minutes and I would appreciate talking to someone in your household.

Before we start, however, could I please confirm this phone number?

I. Is this READ TELEPHONE NUMBER ?

YES--GO TO # II NO---Thank you, but I must have dialed the wrong number. I'm sorry for disturbing you.

II. Is this a residence?

YES--GO TO QUESTION # III NO---Thank you, but I was trying to reach a residence. I'm sorry for disturbing you.

III. Our survey requires that we interview only one household member.

In order to know which person to interview, I need some information.

READ
o How many adults in your household are 18 years of age or older? o How many of these adults are women?
SEE SELECTION TABLES

[Record number of adults and number of women on control sheet]

IF TALKING TO APPROPRIATE RESPONDENT---BEGIN SECTION "A".

IF NOT TALKING TO RESPONDENT AND:

- o NOT AVAILABLE OR CALL BACK---GO TO CONTROL SHEET AND RECORD DETAILS. INDICATE THE
  - NUMBER OF ADULTS, NUMBER OF WOMEN IN HOUSEHOLD
  - SELECTION TABLE DESCRIPTION
  - RESPONDENT'S NAME
  - CALL BACK INSTRUCTIONS.
- o AVAILABLE---WHEN ANSWERS GIVE FOLLOWING INTRODUCTION.

Hello. My name is _____. I'm calling from MGT/Market Research. We're doing a public opinion survey for the Florida Department of Natural Resources.

I'm calling people in your area to find out their ideas on some important issues facing residents in Charlotte and Lee Counties. This phone number has been chosen randomly. My questions will only take a few minutes and I would appreciate talking to you.

SECTION "A"

My first set of questions concerns the Charlotte Harbor area.

1. How long have you lived in the Charlotte Harbor Area? (n=380)

19.1%	1 Year or Less
26.6	2-5 Years
21.9	6-10 Years
32.4	Over 10 Years
1.3%	DK/Refused
[86.6%	Permanent Resident]
[13.4	Temporary Resident]

2. How long have you lived in Florida?

8.9%	1 Year or Less
25.4	2-5 Years
19.8	6-10 Years
45.9	Over 10 Years
1.0%	DK/Refused

3. Based on what you know or have heard, do you think the amount of freshwater flowing into Charlotte Harbor affects the marine plants and animals living in the Harbor?

71.6%	Yes
4.5	Maybe, not sure
23.9	No
41.9%	DK

---

*Percentages above or to the left of the dashed line sum to 100%. The values represent the response given by survey respondents answering each question. Values below or to the right of the dashed line indicate the percentage of respondents who "did not know" (DK) or "refused" to answer each question.

4. What does the word "seagrasses" mean to you?

48.7%	Correct Definition
51.3	Incorrect Definition
24.7%	DK/Refused

5. What does the word "mangroves" mean to you?

32.7%	Correct Definition
65.2	Incorrect Definition
2.0	Other
9.3%	DK/Refused

My next few questions concern seagrasses and mangroves.

For the purpose of this survey; when I use the word seagrasses, I will be describing grasses that grow underwater in shallow bays and lagoons like Charlotte Harbor.

When I use the word mangroves, I will be talking about trees with prop-like roots that grow along the shores of Charlotte Harbor.

6. Based on what you know or have heard, how do you think seagrasses contribute to Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

36.3%	Food for Marine Life
25.3%	Habitat for Marine Life
18.5%	Stabilize the Bottom
16.0%	Protect Marine Life
12.0%	Water Clarity

7. There are many different things that can damage seagrasses. In your opinion, what are the things that cause the greatest damage to seagrasses in Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

59.8%	Pollution, Toxic Waste
27.2%	Boat Traffice/Boat Props
24.1%	Housing, Seawalls, Development

8. Based on what you know or have heard, how do mangroves contribute to Charlotte Harbor?

[MULTIPLE RESPONSES ALLOWED]

49.0%	Stabilize Shorelines
29.9%	Habitat for Marine Life
18.0%	Breeding Habitat for Birds (Rookeries)
15.9%	Food for Marine Life
11.6%	Upland Protection from Floods, Storms and Winds

9. Based on what you know or have heard, do you think that bays and lagoons, such as Charlotte Harbor, are marine nursery areas for young fish?

92.7%	Yes
4.5	Maybe
2.8	No ---- GO TO Q. 11
10.3%	DK ---- GO TO Q. 11

10. About what percentage of Florida's saltwater fish would you estimate use bays or lagoons as nurseries?

IF UNSURE, PROMPT WITH:

"Would you estimate - - - 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% or 100%?

(n=331)

15.8%	25% or Less
33.2	26-50%
25.1	51-75%
25.9	76-100%
21.1%	DK/Refused

11. What does the word "estuary" mean to you?

44.1%	Correct Definition
56.7	Incorrect Definition
36.9%	DK/Refused

I'm going to read a list of things that are sometimes said about the Charlotte Harbor area. For each of the following statements, please tell me if you agree or disagree with the statement. If you are not certain, please tell me and I'll go to the next statement.

		Agree	Disagree	DK/ Refused
12.	The amount of freshwater entering Charlotte Harbor and the surrounding waters does not greatly influence the healthy development of marine plants and animals in the harbor.	34.4%	65.6	20.6%
13.	There is only one type of mangrove that grows along the Charlotte Harbor Coast.	25.3%	74.7	43.5%
14.	The Forsee tree is plentiful in the Charlotte Harbor area.	62.5%	36.1	92.8%
15.	In general, wildlife and natural resource conservation programs are hindering the economic growth of the Charlotte Harbor area.	28.2%	71.8	15.5%

SECTION D

I'd like to finish this survey by getting some information about you.

16. During the last 30 days, about how many times have you eaten Florida seafood?

(n=380)

23.3%	None
28.6	1-3 Times
33.8	4-8 Times
14.3	9 or More Times
0.8%	DK/Refused

17. Have you ever gone fishing, clamming or crabbing in Charlotte Harbor?

34.3%	Yes
65.7	No --- GO TO Q. #19
2.4%	DK/Refused --- GO TO Q. #19

18. During the last year, about how many times have you gone fishing, clamming or crabbing in Charlotte Harbor?

(n=127)

22.5%	None
25.3	1-5 Times
14.6	6-10 Times
9.6	11-20 Times
23.8	More Than 20 Times
4.2%	DK/Refused

19. Would you please tell me, how old were you on your last birthday?

(n=380)

6.3%	18-24
17.4	25-34
13.6	35-44
11.7	45-54
25.3	55-64
20.4	65-74
5.4	75 +
2.1%	Refused

20. What was the highest grade or year of school you completed?

3.5%	8 years or less?
10.1	9-11 years?
34.8	12 years, high school graduate?
6.7	Business/Technical School?
22.3	1-3 years college?
12.5	4 years college, college graduate?
6.2	Post graduate education?
3.9	Completed graduate/professional school?
0.7%	DK/Refused

21a. Did you get a chance to vote during last month's general election?

75.9%	Yes
24.1%	No--GO TO Q. #22
0.6%	DK/Refused--GO TO Q. #22

21b. In deciding how to vote, were you influenced by the local candidates' positions on environmental issues?

(n=287)

54.3%	Yes
45.7	No
4.8%	DK/Refused

21c. In general, did you vote for or vote against candidates who would protect the environment?

91.1%	For
8.9	Against
38.6%	DK/Refused

22. Which of the following best describes where you live. Do you live on the water or do you live inland with no direct water access to Charlotte Harbor?

(n=380)

28.4%	On the water (direct access)
71.6	Inland
0.7%	DK/Refused

23. During the last 3 months, have you received any information about Florida's mangroves, seagrasses or estuaries from:

YES	NO	
34.4%	65.6	TV
10.7%	89.3	Radio
45.3%	54.7	Newspapers
7.3%	92.7	Billboards
17.4%	82.6	Bumperstickers
14.2%	85.8	Relatives and Friends

24. Did this information refer to Charlotte Harbor?

[ASK FOR EACH INFORMATION SOURCE MENTIONED IN Q23.]

YES	NO	DK	(n)	
47.1%	52.9	19.1%	(131)	TV
49.3%	50.8	15.6%	(41)	Radio
54.0%	46.0	15.4%	(172)	Newpapers
25.1%	75.1	15.4%	(28)	Billboards
33.0%	67.0	12.8%	(66)	Bumperstickers
49.5%	50.5	8.8%	(54)	Relatives and Friends

25. Was this information sponsored by the Florida Department of Natural Resources?

[ASK FOR EACH INFORMATION SOURCE MENTIONED IN Q23.]

YES	NO	DK	(n)	
57.9%	42.1	43.2%	(131)	TV
58.8%	41.4	40.3%	(41)	Radio
37.9%	62.1	44.8%	(172)	Newpapers
58.1%	42.2	63.5%	(28)	Billboards
50.0%	50.0	50.4%	(66)	Bumperstickers

26. Are there any other telephone numbers that can be used to reach this household?

IF YES:

How many nonbusiness telephone numbers do you have in this household?

(n=380)

98.4%	One Telephone
1.6	Two Telephones
0.0%	DK/Refused

27. Is this telephone number currently listed in your local phone book?

85.7%	Yes
	IF NO:
	Have you asked for your phone number to be unlisted?
4.5	No, DID NOT ASK
9.8	Yes, DID ASK FOR UNLISTED NUMBER
0.8%	DK/Refused

28. What type of work does the main wage-earner in this household do?

16.5%	Professional/Technical
1.3	Farmers & farm managers
8.3	Managers/Officials/Proprietors
4.7	Clerical/Sales
10.6	Craftsman/Foreman
7.5	Operatives/Service Workers
4.7	Laborers
44.6	Retired
1.7	Not Employed, Unemployed
2.9%	DK/Refused

29. For statistical purposes only, we need to know your total household income. Would you please tell me, is your total income:

6.5%	Under $7,500
11.2	$7,500 to $ 9,999
19.2	$10,000 to $14,999
27.6	$15,000 to $24,999
14.1	$25,000 to $34,999
11.4	$35,000 or $49,999
9.0	$50,000 to $74,999
0.9	$75,000 or more
23.0%	DK/Refused

30. What is your race? Are you:

96.2%	White
1.6	Black
0.5	White Hispanic
0.0	Non-White Hispanic
0.8	American Indian
0.0	Oriental
0.8	Other
2.4%	Refused

That's all of my questions. You've been very helpful and I want to thank you for your time and answers.

Goodbye!

County	25.3%	Charlotte
	74.7	Lee

Sex of respondent.

52.2%	Female
47.8	Male

APPENDIX IV

APPENDIX IV

LEGEND

1984 FOLLOW-UP SURVEY

"Summary Title" - "Month" "Year"

QUESTION: "Exact phrasing of question asked during the survey."

"Response Categories"	"Sample Size" (n)"
"Unless noted otherwise, the table percentages sum across to 100%."	
TOTAL	———
COUNTY	
Charlotte	———
Lee	
AGE	
18-34	
35-54	———
55+	
SEX	
Female	———
Male	
EDUCATION	
Grade-High School	"Post-secondary includes vocational-technical,
Post-Secondary	business, and 1-3 years of college education."
College Graduate	
OCCUPATION	
White Collar	"White and Blue Collar occupations are classified
Blue Collar	using U.S. Department of Labor categories.
Retired	
INCOME	
Under $15,000	
$15,000-$24,999	———
$25,00+	
LENGTH AREA RESIDENCE	
1 Year or Less	
2-5 Years	———
6 or More Years	
RESIDENCE	
On the Water	"Inland refers to property with no direct water
Inland	access to Charlotte Harbor."
MANGROVE DEFINITION	
Correct	"Other refers to answers that could not be clearly
Incorrect	identified as correct or incorrect definitions."
Other	
Don't Know	
FISHING, CLAIMING, CRABBING	"Refers to whether respondent has ever been
Yes	fishing, clamming or crabbing in Charlotte
No	Harbor."
EATEN SEAFOOD PAST MONTH	
No	"Refers to number of times, Florida seafood has
1-3 Times	been eaten in the past month."
4 or More Times	